

PROJECT REPORT

ON
GINGER PROCESSING



2017

North Eastern Development Finance Corporation Ltd.



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CHAPTER-1

THE PROJECT AT A GLANCE

Sl. No.	Particulars	Description										
A. Project Description												
1.	Proposed Project	Processing and Packaging of Ginger										
2.	Capacity of the Plant/Unit (At 100% Capacity)	<ul style="list-style-type: none"> ▪ Dehydrated Ginger: 15 Ton ▪ <u>Ginger Oil : 5 Ton</u> Total : 20 Ton 										
3.	Year-wise Capacity Utilisation	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Yr 01</td> <td style="width: 20%;">Yr 02</td> <td style="width: 20%;">Yr 03</td> <td style="width: 20%;">Yr 04</td> <td style="width: 20%;">Yr 05</td> </tr> <tr> <td style="text-align: center;">50%</td> <td style="text-align: center;">60%</td> <td style="text-align: center;">70%</td> <td style="text-align: center;">70%</td> <td style="text-align: center;">70%</td> </tr> </table>	Yr 01	Yr 02	Yr 03	Yr 04	Yr 05	50%	60%	70%	70%	70%
Yr 01	Yr 02	Yr 03	Yr 04	Yr 05								
50%	60%	70%	70%	70%								
B. Project Cost												
1.	Land	Own Land/ On Lease										
2.	Civil Works & Buildings	Rs. 6,00,000.00										
3.	Plant & Machinery	Rs. 15,27,000.00										
4.	Fixed Assets	Rs. 1,98,000.00										
5.	Pre-operative Expenses	Rs. 2,23,000.00										
6.	Contingency & Escalation	Rs. 1,16,000.00										
7.	Margin for Working Capital	Rs. 1,15,000.00										
Total		Rs. 27,79,000.00										
C. Means of Finance												
1.	Equity @ 40%	Rs. 11,12,000.00										
2.	Loan from Bank @ 60%	Rs. 16,67,000.00										
Total		Rs. 27,79,000.00										
D. Financial Benchmarks												
1.	Break Even Point(at Operating Capacity on Third Year)	47.25%										
2.	Average DSCR	1: 1.91										
3.	Internal Rate of Return	19.00%										
E. Basic Assumptions												
1.	Power Connection and Rate Per Unit	20 HP: Rate Per Unit : Rs. 6.00/-										
2.	Interest Rate	Term Loan: 8%; WC Loan: 12%										
3.	Repayment Period	6 Years including moratorium period of 1 Year.										

CHAPTER-2

INTRODUCTION

- 2.1. The Ginger or Adrak is the dried underground stem or rhizome of the Zingiberous herbaceous plant. Ginger is obtained from the rhizomes of Zingiberofficinale. Ginger is harvested by digging out the rhizomes when the tops have died down.
- 2.2. Among all spices, ginger is the main cash crop supporting the livelihood of many ginger growers of north eastern region. Ginger is grown in almost all the states of the region but the leading states are Meghalaya, Mizoram, Arunachal Pradesh and Sikkim. But the growers face marketing problems due to little local demand and are compelled to sell the surplus outside the state through middlemen at cheaper prices.
- 2.3. Ginger is a seasonal product but it is used extensively in many food preparations. Therefore, it is essential to convert a part of produce into low volume high value ginger to make the crop remunerative. As it is abundantly available in the region, different products like dehydrated ginger, ginger oil, ginger oleoresin may be developed. Ginger oil is primarily used as a flavouring agent in confectionary as well as in soft drinks. The ginger is also used for several medicinal purposes.
- 2.4. Considering the potential market opportunity of such units, the present detail project report has been developed. The main objective of such initiative is to productively utilize the abundantly available resources of the local area and to enable uninterrupted supply of the products to market throughout the year.
- 2.5. A detailed analysis has been carried out considering mainly the aspects mentioned below:
 - 2.5.1. Market and demand of the products.
 - 2.5.2. Requirements of miscellaneous assets for the project.
 - 2.5.3. Estimation of installed capacity and operation pattern.
 - 2.5.4. Consumables, power & utilities and manpower requirements etc.
 - 2.5.5. Estimation of the cost of the project and working capital requirements.
 - 2.5.6. Means of Finance
 - 2.5.7. Estimation of cost of operation, profitability and fund flow statements etc.
 - 2.5.8. Implementation Schedule.
 - 2.5.9. The total Project cost is estimated at **Rs. 27.79Lakhs** which includes margin money for working capital @ 25%.
 - 2.5.10. The various profitability estimates and other financial indicators worked out as given in the following pages are up to the satisfaction level.

CHAPTER-3

PROJECT DESCRIPTION

- 3.1. The proposed project is that of setting up of a Ginger Processing unit at suitable location.
- 3.2. The key products of the proposed project are as follows;
 - Dehydrated Ginger
 - Ginger Oil
- 3.3. Ginger is a seasonal product but it is used extensively in many food preparations. Hence, dried ginger or ginger oil is used in large quantity during off-season. Ginger oil is distilled from the dried spice.
- 3.4. The proposed project would procure the raw materials from the farm level available locally. After processing, the products would be supplied to the market through distributors/ wholesalers/retailers.

CHAPTER-4

MARKET PROSPECT

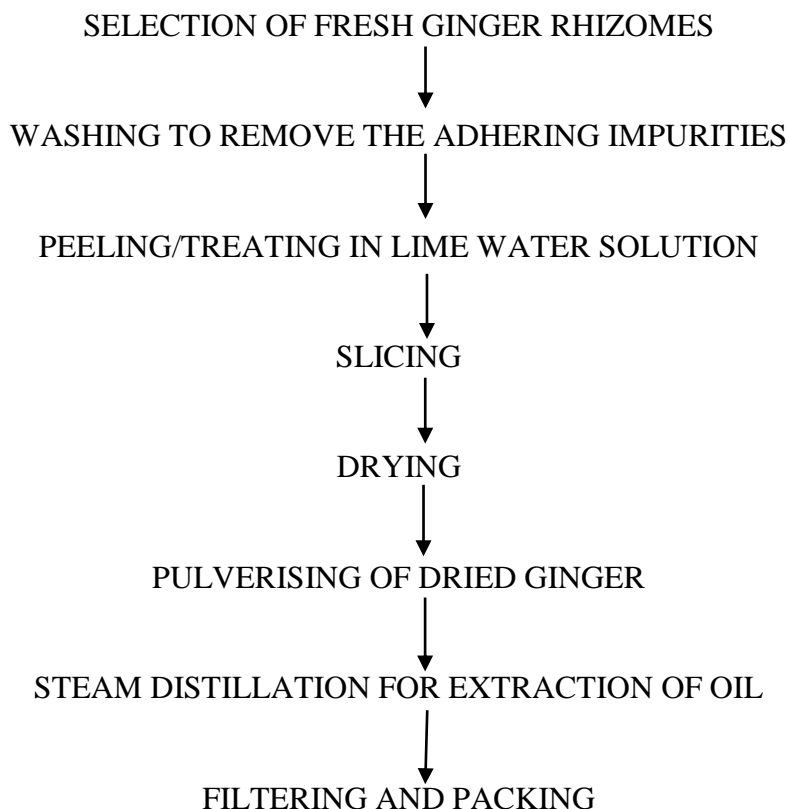
- 4.1. Among the various vegetable crops, ginger offers tremendous scope for commercialization in north eastern region. Fresh and dried ginger, ginger oil and ginger powder are used in large quantities in many vegetarian and non-vegetarian food preparations in Indian, Continental and Chinese cuisine. Ginger also has medicinal attributes and is used in many households as well as by pharmaceutical companies. The exports of these products have also increased manifold in recent times. In view of the increasing application of these products in the various food and allied industries in the country and abroad, there is a good scope for the development of ginger based industry to meet the future requirements of this industry in the region.

- 4.2. Market Promotion plays a vital role for the generation of the potential customers therefore, application of marketing strategies are recommended. Marketing plan of the proposed project may include good quality maintenance, promotional campaign like offering special discounts, referrals, advertisement and tying up with buying houses.

CHAPTER-5

TECHNOLOGICAL PROCESS

5.1. The process flow diagram is as follows:



5.2. **Dehydrated Ginger:** Ginger is washed and cleaned in water and then skin of ginger is peeled partially with the help of peeling machine. It is then dried in electrically operated tray drier at a temperature of about 60 C. Even if ginger is to be used for extraction purposes, this temperature is advisable as oil contents in ginger are not affected till 80 C. Drying time is 24 hours in crossflow type drier and 14 hours in through-flow drier. Dried ginger slices are packed in polythene bags and sealed. Average yield after drying is around 25%.

5.3. **Ginger Oil:** Dry ginger are pulverised by the grinder to the required mesh size. Steam distillation is the preferred method for all essential oils produced in large quantities. The steam, produced in a boiler is introduced into an evaporation vessel which contains the ginger powder & water. The ginger powder is located on a grid placed at a certain distance above the level of the water which fills the bottom of the vessel. The water is vaporized indirectly, by steam flowing in a pipe coil submerged by the water. The water vapour plus the distilled oil coming from the evaporator vessel is recovered in a separate water-cooled condenser. This mixture flowing out of the condenser is separated by decantation in a Florentine flask. The essential oil is collected at the top and distilled water leaves the flask at the bottom of the flask. As water still contains some soluble parts of the oil, it is sent back to the evaporator vessel to recover the soluble components by means of second distillation.

CHAPTER-6

QUALITY CONTROL AND STANDARDS

- 6.1. The bureau of Indian Standards has formulated the following specifications for dehydrated ginger. Ginger whole & ground- IS : 1908-1980 (First Revision).The quality should conform to standards laid down in PFA Act. However, for better marketing of this product standards may be maintained as per "AGMARK" and BIS specifications.
- 6.2. **FSSAI LICENSE:** FSSAI License is issued by the Food Safety and Standards Authority of India (FSSAI), Ministry of Family Health & Welfare, Government of India. Application to commence a food business must be made to the FSSAI in the prescribed format. Based on the application and supporting documents, FSSAI will accord approval. The Food Safety and Standards (Licensing and Registration of Food Businesses) Regulations 2011 introduced to improve the hygiene and quality of food has brought about tremendous changes in the food industry. As per the Act, no person shall commence or carry on any food business except under a FSSAI license or FSSAI registration. Therefore, any food manufacturing or processing or packaging or distributing entity is now required to obtain a FSSAI License or Registration.
- 6.3. **POLLUTION CONTROL:** There is no major pollution problem associated with this industry except for disposal of waste which should be managed appropriately. However, waste water resulting from washing of ginger & lime treated ginger water may be safely dispersed over a large area of land for irrigation purpose. The promoter is advised to take "No Objection Certificate" from the State Pollution Control Board.
- 6.4. **EFFLUENT DISPOSAL:** Disposal of any effluent out of the project unit should be treated with recycling facility or dumped in such a way that these does not cause hazard in the vicinity of the site.
- 6.5. **ENERGY CONSERVATION:** Proper care should be taken in running the machineries and equipment to avoid over run and high electricity consumption. The machineries selected for the plant should be most energy efficient for economical production.

CHAPTER-7

CONSUMABLES, POWER AND UTILITY

7.1. The major consumables required are as follows;

1. Ginger
2. Citric Acid and
3. Packaging Materials.

7.2. POWER:

The total requirement of power for the project is 16.92 KW. The total power supply would be distributed in the following way;

Plant & Machinery	-	14.92 KW
General Lighting	-	2.00 KW

The details requirement is shown in **Appendix-C2**.

7.3. UTILITY:

WATER: Constant flow of water would be necessary in the operation of the plant. Water would be obtained from bore well and can be stored in an overhead tank, from where it will be supplied to the required areas. Process water should be free of mud and suspended particles. It should be available at a pressure of 3 Kg/sq.cm.

OTHER UTILITIES: Other utilities includes fuel etc. those should be locally available. Detail expenditure against the head is shown in **Appendix- C2**.

CHAPTER-8

INSTALLED CAPACITY

8.1. In assessing the proposed plant capacity, due consideration has been given to technological and financial factors, marketing considerations, availability of consumables, infrastructure facilities and economic viability. The detailed requirement of the plant and machineries to achieve the plant capacity is assessed by the unit technician. While arriving at the requirement of various type of equipment and machinery required for the unit, due considerations has been given to the following points.

- a) Minimum Wastage
- b) High Productivity
- c) Maximum flexibility in operation
- d) Adequate stock by provision wherever necessary

The installed production capacity of the unit per annum is as follows;

Dehydrated Ginger	-	15 Ton
Ginger Oil	-	5 Ton

For the purpose of carrying out this economic viability of the proposed project, it is assumed that the plant will operate at following efficiencies during the first 5(Five) years.

Year	01	02	03	04	05
Capacity Utilization	50%	60%	70%	70%	70%

CHAPTER-9**BASIS AND PRESUMPTIONS**

While deriving figures and projections in this Project report, following Basis and Presumptions have been made.

- 9.1. The project is based on a single shift basis and 300 days of working schedule in a year, working for 8 hours a day, 25 days a month.
- 9.2. The project cost and other projections etc. have been made on present market conditions and the sources available within our sources only and therefore it may vary on account of market fluctuations and with different suppliers and qualities.
- 9.3. The cost of machinery and equipment/materials indicated refer to a particular make and the prices are approximate to these prevailing at the time of preparation of this report.
- 9.4. Power rate is assumed at Rs.6.00 per unit and monthly fixed rental charges.
- 9.5. Water would be made available through bore well facility at the project site.
- 9.6. Manpower requirement for the project has been planned considering the size of the unit.
- 9.7. Interest rates considered is 8% on term loan and 12.00% on Working capital loan for financial assistance.
- 9.8. For repayment, a period of 6 years is planned with moratorium period of one year.
- 9.9. Insurance charges have been considered Lump Sum.
- 9.10. Repair and maintenance have been calculated at reasonably.
- 9.11. Depreciation shown has been calculated on Straight Line Method.
- 9.12. Non-refundable deposits, Preparation of detailed project report fees, Architecture fees, traveling & Convenience amount, Know-how & Engineering fees, Application processing fees, trial production, fees etc are considered under pre-operative expenses.
- 9.13. Break Even Point & Rate of Return is calculated on optimum production condition findings.
- 9.14. At the plant site, availability of unskilled labour is not a problem. Skilled and unskilled labour can be recruited for operating the plant. Initial training will be required for smooth and efficient running of the plant. It is felt that the skilled manpower available locally having some experience in operation can be recruited to satisfy the manpower need.
- 9.15. Project would be set up at a site that is well connected by road and there is adequate supply of power and water.

CHAPTER-10

PROJECT COST ESTIMATES AND MEANS OF FINANCE

10.1. TOTAL PROJECT COST:

The Capital cost of the project has been estimated on the basis of installed capacity assuming 200 working days per annum. The total cost of the Project including margin for working capital has been estimated at **Rs. 27,79,000.00** as detailed in **Annexure-A**.

10.2. LAND, BUILDING AND CIVIL WORKS:

The approximate cost of civil works including Building, Electrification, Water Supply, Sanitation and Drainage etc will be **Rs. 6,00,000.00**.

10.3. PLANT & MACHINERY:

The total cost of Plant & Machinery has been estimated at **Rs.15,27,000.00**as detailed in Appendix-A2.

10.4. PLANT EXPENDITURE:

The total cost on Plant expenditure includes admissible taxes, transportation, insurance of the machineries and installation etc. has been included as detailed in Appendix-A2.

10.5. FIXED ASSET:

The cost of Misc. Fixed Assets has been estimated at around **Rs. 1, 98,000.00** as detailed in Appendix-A3. These include cost of furniture and fixture's and office equipment.

10.6. PRELIMINARY & PRE-OPERATIVE EXPENDITURE:

An expenditure of **Rs. 2, 23,000.00** has been earmarked on this account, as detailed in Appendix- A4.

10.7. CONTINGENCY AND ESCALATION:

This has been calculated @ 5% on Civil Work, Plant & Machinery and Misc. Fixed Assets to provide safeguard against escalation of prices or any other unforeseen expenditure. The total amount works out to **Rs. 1,16,000.00**.

10.8. WORKING CAPITAL ESTIMATES:

The details of the Working Capital requirements of the proposed unit have been shown in Annexure-C. In arriving at the working capital estimates, various components vis Administrative Expenses/Consumables and Working Expenses have been taken on the basis of usual norms. The Working Capital requirement is proposed to be met from project margin money and cash credit loan borrowings from the financial institution.

10.9. MEANS OF FINANCE:

The Proposed Project Cost of **Rs. 27.79 Lakhs** would be financed under MSME development schemes of financial institutions/commercial banks, in the following manner as shown below.

1. LOAN FROM BANK/FI @ 60%	=	16.67 LAKHS
2. PROMOTERS CONTRIBUTION @ 40%	=	11.12 LAKHS
TOTAL	=	27.79 LAKHS

10.10. DEBT-EQUITY RATIO:

Based on the above financing pattern, the Debt-Equity ratio of the Project is **1.5:1**.

CHAPTER-11

ECONOMIC VIABILITY
AND
FINANCIAL ANALYSIS

11.1. COST OF PRODUCTION:

The cost of production has been estimated annually for the first five years of operation. The various cost components taken into account are cost of administrative expenses, consumable stores, utilities, wages and salaries, repairs and maintenance, insurance, interest rates, taxes etc. depreciation. The detailed cost of production has been shown in **Annexure-D**.

11.2. REPAIR & MAINTENANCE:

Cost under Repair and Maintenance expenses have been assessed by charging 1% on Land & Building, 2% on Machineries and 1.5% on Fixed Assets on first year with increase of 2% on subsequent years as detailed in Appendix-D1.

11.3. ADMINISTRATIVE EXPENSES:

Expenditure under this has been estimated for five years as shown in **Appendix-C3** that includes insurance premium of the unit.

11.4. SELLING EXPENSES:

This has been considered in the cost and profitability statement under other expenses etc.

11.5. DEPRECIATION:

In calculating the cost of operation, depreciation has been calculated under straight line method after absorbing the pre-operative and contingencies expenses as shown in **Appendix-D4**.

11.6. FINANCIAL CHARGES:

The interest on proposed term loan amount of **Rs. 16.67 Lakhs** has been calculated @ **8%** being the rate of interest. The interest calculation for various years after considering the repayments due in respective years has been shown in **Appendix-D3**.

11.7. SALES REALISATION:

The total annual income of the Project is shown in **Appendix-D2**. Based on 70% capacity utilisation, total turnover is estimated at **Rs. 50.75 Lakhs on third year**, the sale for other years are estimated at different capacity utilisation as shown in Appendix-D2.

11.8. NET PROFIT:

The proposed project is expected to generate profit from the first year of operation itself and will gradually increase with increase in capacity utilisation.

11.9. INTERNAL ACCRUALS:

The net profit after tax with depreciation added back would make up sufficient internal accruals to meet the term loan, working capital loan repayment obligations without any liquidity problems.

11.10. FINANCIAL ANALYSIS:

The break-even point of the proposed project is **47.25%** at 70% operating capacity on third year as shown in **Annexure-F**.

The DSCR of the project has been worked out in **Annexure-H** with an average of **1:1.91**, which is considered quite satisfactory to meet the repayment and interest obligations in respect of the term loan.

The **internal rate of return** of the project works out to **19.00 %**, which is satisfactory.

ANNEXURE-A

ESTIMATED COST OF THE PROJECT

Particulars	Amount (Rs. lacs)
Land & Site development	Own Land/ On Lease
Building & Civil Works	6.00
Plant & Machinery	15.27
Misc. Fixed Assets	1.98
Preliminary & Pre-operative Expenses	2.23
Contingencies & Escalation @ 5%	1.16
Working Capital	1.15
TOTAL	27.79

Total Project Cost :Rs. 27, 79, 000.00

(Rupees Twenty Seven Lakhs and Seventy Nine Thousand Only).

ANNEXURE-B

PROPOSED MEANS OF FINANCE

(Rs. in lacs)

Particulars	Percent	Amount
<u>EQUITY</u>		
A. Equity from Promoters	40%	11.12
B. Subsidy from Central/ State Govt.	-	
<u>DEBT</u>		
Term Loan from Banks/ FIs	60%	16.67
TOTAL	100%	27.79

Total Project Cost :Rs. 27, 79, 000.00

(Rupees Twenty Seven Lakhs and Seventy Nine Thousand Only).

ANNEXURE-C

WORKING CAPITAL ESTIMATES

(Rs. in lacs)

	Period (Days)	Total Current Assets		
		Year 1	Year 2	Year 3
Raw Materials	15	0.88	1.05	1.23
Power & Utility	30	0.12	0.15	0.17
Salary	30	0.74	0.75	0.75
Finished Goods	15	1.34	1.54	1.73
Receivables	15	1.49	1.79	2.09
Total		4.58	5.28	5.97
Working Capital Margin in Year 1 (25%)	1.15			

ANNEXURE-D

COST AND PROFITABILITY ESTIMATES

(Rs. in lacs)

Particulars	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6
<u>A. INCOME</u>						
Production Capacity (Ton/ annum)	20	20	20	20	20	20
Capacity utilisation	50%	60%	70%	70%	70%	70%
Production/ annum at capacity utilisation	10	12	14	14	14	14
Total income/ annum	36.25	43.50	50.75	50.75	50.75	50.75
<u>B. OPERATING EXPENSES</u>						
Raw Materials	21.35	25.62	29.89	29.89	29.89	29.89
Power & Utility	1.52	1.82	2.13	2.13	2.13	2.13
Salary	9.06	9.11	9.15	9.20	9.24	9.29
Repair & Maintenance	0.41	0.42	0.43	0.44	0.45	0.46
Other Expenses	0.36	0.44	0.51	0.51	0.51	0.51
Total Operating Expenses	32.71	37.41	42.11	42.16	42.21	42.27
Operating profit	3.54	6.09	8.64	8.59	8.54	8.48
<u>C. FINANCIAL EXPENSES</u>						
Depreciation	1.41	1.41	1.41	1.41	1.41	1.41
Interest on Term Loan	1.33	1.21	0.94	0.68	0.41	0.14
Interest on Working Capital Loan	0.41	0.47	0.54	0.54	0.54	0.54
Net Profit	0.39	3.00	5.75	5.96	6.17	6.39
Net Cash Accruals	1.80	4.41	7.16	7.37	7.59	7.80
Principal Repayment	0.00	3.33	3.33	3.33	3.33	3.33

ANNEXURE-E

PROJECTED BALANCE SHEET

(Rs. in lacs)

Particulars	Impl. Period	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6
LIABILITIES							
Promoters Capital							
Promoters capital	11.12	11.12	11.12	11.12	11.12	11.12	11.12
Profit from P&L		0.39	3.38	9.13	15.10	21.27	27.66
Sub Total	11.12	11.50	14.50	20.25	26.21	32.38	38.77
Secured Loan							
Term loan	16.67	16.67	13.34	10.00	6.67	3.33	0.00
CC limit from Banks		3.44	3.96	4.48	4.48	4.48	4.48
Sub Total	16.67	20.11	17.30	14.48	11.15	7.81	4.48
Unsecured Loan							
Current Liabilities							
Total of Liabilities	27.79	31.61	31.79	34.73	37.36	40.20	43.25
ASSETS							
Gross Fixed Block	24.41	24.41	24.41	24.41	24.41	24.41	24.41
Sub Total (a)	24.41	24.41	24.41	24.41	24.41	24.41	24.41
Depreciation							
Cum. Depreciation		1.41	2.82	4.24	5.65	7.06	8.47
Sub Total (b)	0.00	1.41	2.82	4.24	5.65	7.06	8.47
Net Fixed Asset Block (a-b)	24.41	23.00	21.59	20.18	18.76	17.35	15.94
Current Asset Block							
W.I.P.(Inventories)							
Cash & Bank balance	1.15	2.02	3.14	7.02	11.28	15.76	20.45
Other Current Assets		4.58	5.28	5.97	5.97	5.97	5.97
Sub-Total	1.15	6.60	8.42	12.99	17.26	21.73	26.42
Preliminary expenses not written off	2.23	2.01	1.78	1.56	1.34	1.12	0.89
Total of Assets	27.79	31.61	31.79	34.73	37.36	40.20	43.25

ANNEXURE-F

PROJECTED CASHFLOW STATEMENT

(Rs. in lacs)

Particulars	Impl. Period	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6
<u>SOURCES OF FUND</u>							
Profit after tax with depreciation & interest added back		3.54	6.09	8.64	8.59	8.54	8.48
Increase in Promoters capital	11.12						
Increase in un-secured loan							
Increase in Term Loan	16.67						
Increase in Bank borrowing (WC)		3.44	0.52	0.52			
Prelim. exp. W/off		0.22	0.22	0.22	0.22	0.22	0.22
Decrease in WIP(inventory)							
Decrease in Other current assets							
Sub Total	27.79	7.20	6.84	9.39	8.81	8.76	8.70
<u>USES OF FUND</u>							
Preliminary expenses	2.23						
Capital expenditure	24.41						
Increase in WIP							
Repayment of Term Loan		0.00	3.33	3.33	3.33	3.33	3.33
Decrease in unsecured loan							
Interest payment							
Term Loan		1.33	1.21	0.94	0.68	0.41	0.14
Other bank(W.C)		0.41	0.47	0.54	0.54	0.54	0.54
Increase in Working capital		4.58	0.70	0.70			
Decrease in Other current liabilities							
Sub Total	26.64	6.33	5.72	5.51	4.55	4.28	4.02
Opening cash/bank balance	0.00	1.15	2.02	3.14	7.02	11.28	15.76
Surplus/Defecit	1.15	0.88	1.12	3.88	4.26	4.48	4.69
Closing cash/bank balance	1.15	2.02	3.14	7.02	11.28	15.76	20.45

ANNEXURE-G

DEBT-SERVICE COVERAGE RATIO

(Rs. in lacs)

Year	1	2	3	4	5	6
Profit After Tax (Net Profit)	0.39	3.00	5.75	5.96	6.17	6.39
Depreciation	1.41	1.41	1.41	1.41	1.41	1.41
Interest	1.33	1.21	0.94	0.68	0.41	0.14
Total	3.13	5.62	8.11	8.05	8.00	7.94
Interest	1.33	1.21	0.94	0.68	0.41	0.14
Loan Repayment	0.00	3.33	3.33	3.33	3.33	3.33
Total	1.33	4.55	4.28	4.01	3.75	3.48
DSCR	2.35	1.24	1.89	2.01	2.14	2.28

Average DSCR = 1.91

ANNEXURE-H

BREAK-EVEN ANALAYSIS

(Rs. in lacs)

Year	1	2	3
A. Net sales (Rs. lac)	36.25	43.50	50.75
B. Variable cost			
Raw Materials	21.35	25.62	29.89
Power & Utility	1.52	1.82	2.13
Other Expenses	0.36	0.44	0.51
Interest on Working Capital Loan	0.41	0.47	0.54
Total variable cost	23.64	28.35	33.06
C. Contribution (A-B)	12.61	15.15	17.69
D. Fixed & Semi-fixed Costs			
Salary	9.06	9.11	9.15
Repair & maintenance	0.41	0.42	0.43
Interest on Term Loan	1.33	1.21	0.94
Depreciation	1.41	1.41	1.41
Total fixed cost	12.22	12.15	11.94
E. BREAKEVEN POINT	96.94%	80.22%	67.49%
F. BEP at operating capacity	48.47%	48.13%	47.25%
G. Cash BEP	42.87%	42.54%	41.66%

ANNEXURE-I

INTERNAL RATE OF RETURN

(Rs. in lacs)

Year	0	1	2	3	4	5	6
CASH OUTFLOW							
Capital Expenditure	24.41	0.00	0.00	0.00	0.00	0.00	0.00
Working Capital	0.00	4.58	0.70	0.70	0.00	0.00	0.00
Total (A)	24.41	4.58	0.70	0.70	0.00	0.00	0.00
CASH INFLOW							
Profit After Tax		0.39	3.00	5.75	5.96	6.17	6.39
Add: Depreciation		1.41	1.41	1.41	1.41	1.41	1.41
Add: Interest		1.33	1.21	0.94	0.68	0.41	0.14
Add: Salvage Value							
Total (B)	0.00	3.13	5.62	8.11	8.05	8.00	7.94
NET FLOW (B-A)	-24.41	-1.45	4.92	7.41	8.05	8.00	7.94

IRR = 19%

ANNEXURE-J
TERM LOAN REPAYMENT SCHEDULE

(Rs in lacs)

Month	Year	1	2	3	4	5	6
Month 1	Opening balance	16.67	16.67	13.34	10.00	6.67	3.33
	Repayment	0.00	0.28	0.28	0.28	0.28	0.28
	Interest (8%)	0.11	0.11	0.09	0.07	0.04	0.02
	Closing balance	16.67	16.39	13.06	9.73	6.39	3.06
Month 2	Opening balance	16.67	16.39	13.06	9.73	6.39	3.06
	Repayment	0.00	0.28	0.28	0.28	0.28	0.28
	Interest	0.11	0.11	0.09	0.06	0.04	0.02
	Closing balance	16.67	16.12	12.78	9.45	6.11	2.78
Month 3	Opening balance	16.67	16.12	12.78	9.45	6.11	2.78
	Repayment	0.00	0.28	0.28	0.28	0.28	0.28
	Interest	0.11	0.11	0.09	0.06	0.04	0.02
	Closing balance	16.67	15.84	12.50	9.17	5.84	2.50
Month 4	Opening balance	16.67	15.84	12.50	9.17	5.84	2.50
	Repayment	0.00	0.28	0.28	0.28	0.28	0.28
	Interest	0.11	0.11	0.08	0.06	0.04	0.02
	Closing balance	16.67	15.56	12.23	8.89	5.56	2.22
Month 5	Opening balance	16.67	15.56	12.23	8.89	5.56	2.22
	Repayment	0.00	0.28	0.28	0.28	0.28	0.28
	Interest	0.11	0.10	0.08	0.06	0.04	0.01
	Closing balance	16.67	15.28	11.95	8.61	5.28	1.95
Month 6	Opening balance	16.67	15.28	11.95	8.61	5.28	1.95
	Repayment	0.00	0.28	0.28	0.28	0.28	0.28
	Interest	0.11	0.10	0.08	0.06	0.04	0.01
	Closing balance	16.67	15.01	11.67	8.34	5.00	1.67
Month 7	Opening balance	16.67	15.01	11.67	8.34	5.00	1.67
	Repayment	0.00	0.28	0.28	0.28	0.28	0.28
	Interest	0.11	0.10	0.08	0.06	0.03	0.01
	Closing balance	16.67	14.73	11.39	8.06	4.72	1.39
Month 8	Opening balance	16.67	14.73	11.39	8.06	4.72	1.39
	Repayment	0.00	0.28	0.28	0.28	0.28	0.28
	Interest	0.11	0.10	0.08	0.05	0.03	0.01
	Closing balance	16.67	14.45	11.12	7.78	4.45	1.11
Month 9	Opening balance	16.67	14.45	11.12	7.78	4.45	1.11
	Repayment	0.00	0.28	0.28	0.28	0.28	0.28
	Interest	0.11	0.10	0.07	0.05	0.03	0.01
	Closing balance	16.67	14.17	10.84	7.50	4.17	0.83
Month 10	Opening balance	16.67	14.17	10.84	7.50	4.17	0.83
	Repayment	0.00	0.28	0.28	0.28	0.28	0.28
	Interest	0.11	0.09	0.07	0.05	0.03	0.01
	Closing balance	16.67	13.89	10.56	7.22	3.89	0.56
Month 11	Opening balance	16.67	13.89	10.56	7.22	3.89	0.56
	Repayment	0.00	0.28	0.28	0.28	0.28	0.28
	Interest	0.11	0.09	0.07	0.05	0.03	0.00
	Closing balance	16.67	13.62	10.28	6.95	3.61	0.28
Month 12	Opening balance	16.67	13.62	10.28	6.95	3.61	0.28
	Repayment	0.00	0.28	0.28	0.28	0.28	0.28
	Interest	0.11	0.09	0.07	0.05	0.02	0.00
	Closing balance	16.67	13.34	10.00	6.67	3.33	0.00
Principal Repayment		0.00	3.33	3.33	3.33	3.33	3.33
Interest		1.33	1.21	0.94	0.68	0.41	0.14

APPENDIX-A1**COST OF LAND AND BUILDING****Covered Area – 1,200 Square Feet**

Particulars	Area (Sqft)	Rate (Rs)	Amount (Rs)
Work Shed, Store House cum Office	1200	400	480000
		Sub total	480000
Add: Electrification, Water supply, Sanitation and Drainage @ 25%			120000
		TOTAL	600000
		Say (Rs. in lacs)	6.00

APPENDIX-A2**COST OF PLANT AND MACHINERY**

Particulars	Qty	Amount (Rs)
Solar Cabinet Dryer- 200 Kg	1	1250000
Skin Peeling Machine	1	
Steam Distillation Unit	2	
Baby Boiler	1	
Steam Jacketed Kettle	1	
Aluminium Top Working Tables	1	
Sealing Machine	1	
Gas Burners	2	
Washing Tanks, SS Utensils, Weighing Scales, Aluminium Trays, Plastic Tubs and Laboratory Equipment	LS	88000
Miscellaneous Equipment	LS	50000
	Sub total	1388000
Add: Taxes, transportation and installation etc @ 10%		138800
	TOTAL	1526800
	Say (Rs. in lacs)	15.27

APPENDIX-A3**MISCELLANEOUS FIXED ASSETS**

Particulars	Qty	Rate (Rs)	Amount (Rs)
Electrical Load Security and Transformer	LS	--	95000
Furniture's and Fixtures	LS	--	50000
Miscellaneous items	LS	--	35000
Sub total			180000
Add: Taxes, transportation and installation etc @ 10%			18000
TOTAL			198000
Say (Rs. in lacs)			1.98

APPENDIX-A4**PRELIMINARY AND PRE-OPERATIVE EXPENSES**

Particulars	Amount (Rs. lacs)
Travelling Expenses	32000
Non Refundable Deposits and Professional Fees	72000
Interest during implementation	89032
Miscellaneous expenses	30000
TOTAL	223032
Say (Rs. in lacs)	2.23

APPENDIX-C1

MANPOWER REQUIREMENT & COST

The salaries and wages of different types of manpower is projected as follows:

Particulars of Employee	Numbers	Salary/ Month (Rs)	Cost/ annum (Rs)
Manager	1	12000	144000
Sales Person	4	7000	336000
Skilled Workers	2	6000	144000
Semi-Skilled Workers	2	5000	120000
Unskilled Workers	3	4500	162000
Expenses on salary in the 1st year (Rs)			906000

Increase of 0.50% has been considered every subsequent year.

APPENDIX-C2

POWER AND UTILITY

A. Expenses on Power

Particulars	Quantity	Power (Kw)	Total (Kw)
Plant & Machinery (Total HP of 20)	1	14.92	14.92
General Lighting	20	0.10	2.00
Total power requirement/ day (Kw)			16.92
No. of hrs/ day	8		
Nos. of days/annum	300		
Annual power requirement (kwh)	40608		
Rate per unit (Rs)	6		
Expenses on power (Rs)	243648		

B: Estimate of Utility

Expenses on Water/Gas Cylinder/Other Utilities (Rs)	60000
Expenses on Power & Utility at 100% capacity (Rs)	303648

APPENDIX-D1**REPAIR AND MAINTENANCE COST**

(Rs. in lacs)

Particulars	Cost (Rs)	Contingencies	Total	Rate	Amount (Rs)
Building & Civil Works	6.00	0.30	6.30	1.00%	0.06
Plant & Machinery	15.27	0.76	16.03	2.00%	0.32
Misc. Fixed Assets	1.98	0.10	2.08	1.50%	0.03
Expenses on repair & maintenance in year 1	23.25	1.16	24.41		0.41

APPENDIX-D2**ESTIMATES OF INCOME****(Basis-100% Capacity Utilisation)**

Particulars	Qty	Price per Unit (Rs.)	Amount (Rs.)
<u>Dehydrated Ginger</u>	15 Ton	150000	2250000
<u>Ginger Oil</u>	5 Ton	1000000	5000000
Total Sales per annum at 100% capacity (Rs)	20 Ton		7250000

APPENDIX-D3**INTEREST ON WORKING CAPITAL**

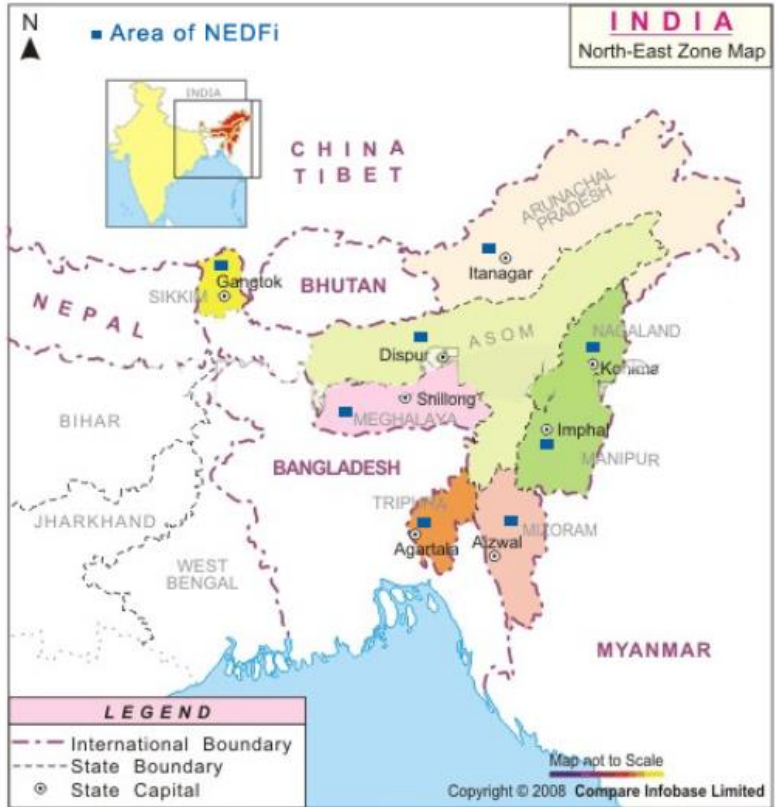
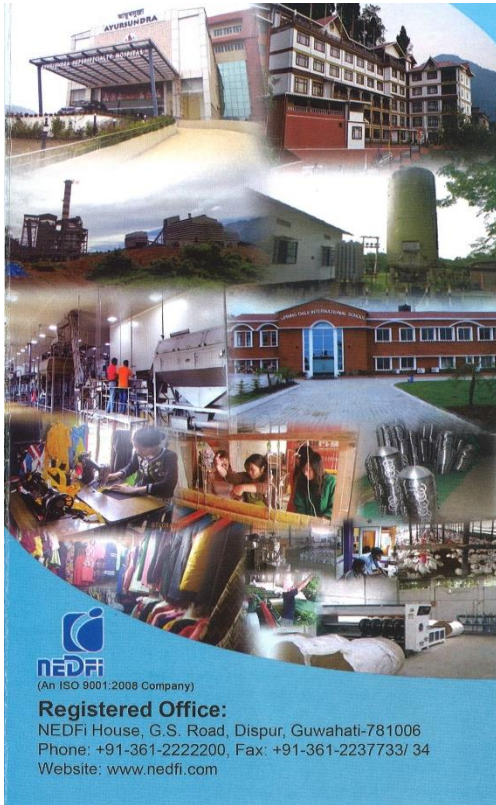
(Rs. in lacs)

Particulars	Year 1	Year 2	Year 3
Total Current Assets	4.58	5.28	5.97
Bank Loan (75%)	3.44	3.96	4.48
Interest @ 12%	0.41	0.47	0.54

APPENDIX-D4**DEPRECIATION SCHEDULE**

(Rs in lacs)

Description	Cost (Rs)	Contingencies	Total	Rate	Amount/ annum (Rs)
Building & Civil Works	6.00	0.30	6.30	3.17%	0.20
Plant & Machinery	15.27	0.76	16.03	6.33%	1.01
Misc. Fixed Assets	1.98	0.10	2.08	9.50%	0.20
TOTAL	23.25	1.16	24.41		1.41



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NEDFi Schemes at a glance

Sl. No.	Name of the Scheme	Eligibility	Purpose	Nature and Extent of Assistance	Promoter's Contribution
1	Rupee Term Loan Scheme	Projects promoted by Private/ Public Ltd. Company, Proprietorship, Partnership firms etc.	To provide medium to long term financial assistance for setting up projects in manufacturing and services sector	Term Loan (upto 60-65% of project cost)	Minimum 35-40% of the project cost
2	Equipment Finance Scheme	Projects promoted by Private/ Public Ltd. Company, Proprietorship, Partnership firms etc. & should be in operation profitably for last three years having good track record	To provide financial assistance for acquiring machinery/equipment	Term Loan (upto 70 % of equipment cost)	Minimum 30 % of the equipment cost
3	Corporate Finance Scheme	Projects promoted by Private/ Public Ltd. Company, Proprietorship, Partnership firms etc. & should be in operation profitably with good track record	To provide financial assistance towards normal capital expenditure, working capital margin, repayment of high cost debt and for general corporate purpose	Term Loan (As per assessment of existing financials)	As per requirement on case to case basis
4	Working Capital Term Loan Scheme	Projects promoted by Private/ Public Ltd. Company, Proprietorship, Partnership firms etc. (i) managed by experienced businessman with proven track record and scope for increasing capacity utilisation with fresh infusion of funds (ii) also, established contractor/ construction firms with good track record of executing contracts/ constructions	(i) To provide working capital assistance in the form of working capital term loan (ii) To provide financial assistance for execution of contract/ construction works	(i) Working Capital Term Loan (upto 75 % of the total working capital requirement for one business cycle) (ii) Working Capital Term Loan (upto 20-25 % of the total contract/ construction value)	(i) Minimum 25 % of projected working capital for one business cycle (ii) As per cash budget of the contract/ construction
5	NEDFi Microfinance Scheme (NMFS)	Well managed MFIs which are in operation for at least three years with good track records	To provide micro credit to low income groups	Term Loan	As per the business plan of the MFIs
6	NEDFi Opportunity Scheme for Small Enterprises (NOSSE)	Projects promoted by Private/ Public Ltd. Company, Proprietorship, Partnership firms etc. Project Cost from Rs.50 lakhs to Rs.200 lakhs with or without Working Capital	To provide medium term to long term financial assistance for setting up projects in manufacturing & service sector	Term Loan & Loan ceiling (upto 66.67% of Project cost & loan ceiling upto Rs.100.00 lakhs)	Minimum 33.33% of the project cost
7	North East Entrepreneurs Development Scheme (NEEDS)	Projects promoted by first generation entrepreneurs Maximum Project Cost upto Rs.50 lakhs	To provide medium term to long term financial assistance for setting up projects in manufacturing, services & real estate sector.	Term Loan (upto 75% of project cost)	Minimum 25% of the project cost
8	Enterprise Development Scheme (EDS)	Enterprises promoted by Private/Public Ltd Company, Proprietorship, Partnership firms etc. which are engaged in any viable income generating activity and having working capital requirements. The maximum project cost is limited (i.e working capital for one cycle) upto Rs.20 lakhs	To provide working capital assistance for one cycle for projects in manufacturing, services & trading sector	Working Capital Term Loan (upto 75% of the project cost)	Minimum 25% of the project cost
9	Women Enterprises Development Scheme (WEDS)	Enterprises promoted by women with project cost not exceeding Rs.15 lakhs	To provide medium to long term financial assistance along with one cycle of working capital for projects in manufacturing, services, real estate & trading sector	Term Loan (upto 75% of project cost)	Minimum 25% of the project cost

N.B. NEDFi financed units are also given support in the following areas:

- participation in fairs/ exhibitions;
- marketing support;
- skill up-gradation trainings;
- other facilities.