

Project Based Components

Model Detailed Project Report

Cold Storage, Type -II

Construction of 2000 MT Capacity of Cold Storage (8 Chambered, 250 MT each)

Directorate of Horticulture
Department of Agriculture
Govt. of Bihar

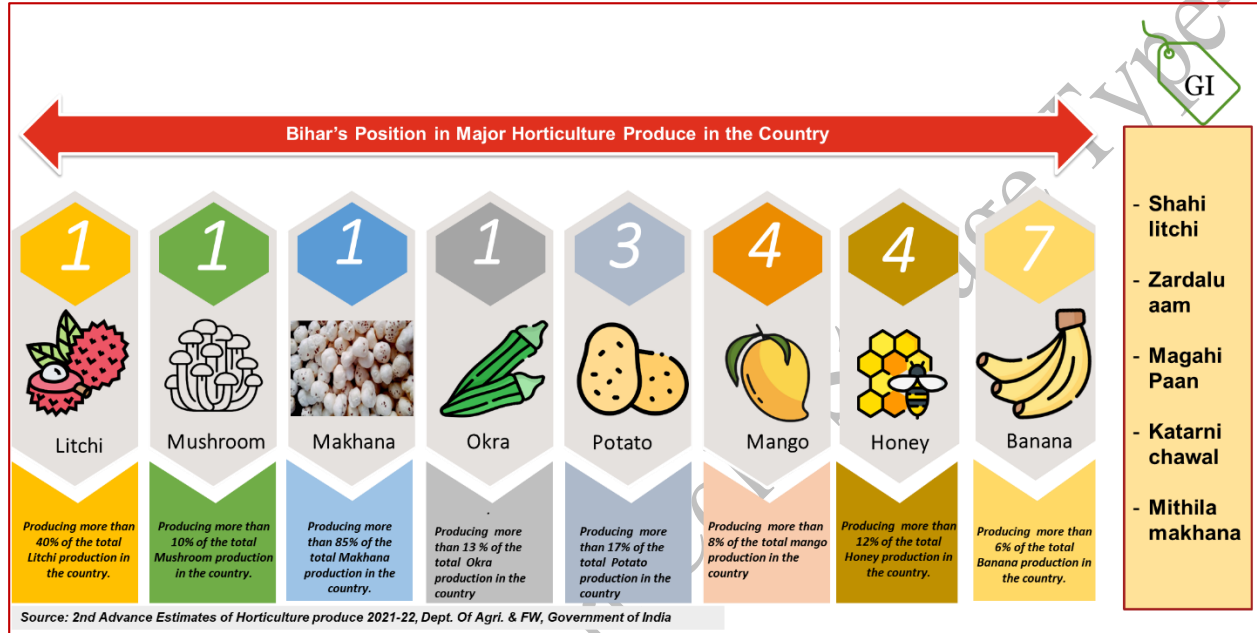
Disclaimer: This is just a model DPR prepared based on assumptions for reference purpose only. The project cost and financial projections may vary project to project as per technology selection, nature of civil work, price of raw materials etc.

Table of Content

1. Introduction	3
2. Problem Statement and Business Opportunity	3
3. Intended Impact of Project	4
4. Location of the Proposed Cold Storage Unit.....	4
5. Financial Assistance from Bihar Horticulture Development Society.....	4
7. Financial Analysis	5
7.1 Civil Construction Cost	5
7.2 Plant & Machinery Cost.....	5
8. Project at a Glance-Financial.....	6
8. Layout Plan for Cold Storage Unit.....	7
Annexure-i: - Guidance for Availing Financial Assistance	8
Annexure-ii: - Important Instructions for Establishing Cold Storage Unit.....	8
Annexure-iii: List of Machineries/PUF panel Supplier.....	9
Annexure iv: Add on Technology for Controlled Atmosphere and Technology Induction and Modernization Of Cold-Chain	10
Annexure-v: Checklist for Cold Storage Application.....	12
Annexure-vi: Detailed Financial Projection of the Project	13

1. Introduction

Horticulture is considered as new sunrise sector as it not only provides much needed crop diversification, but it can also increase farmer's income. Bihar is the fourth largest producer of vegetables and eighth largest producer of fruits in the country.



However, due to absence of cold storage unit, post-harvest loss of horticulture produce is huge there by financial loss of farmers and value chain actor. Traders and farmers tend to sell their produce even market demand is low because they would not get suitable storage infrastructure in the vicinity.

In light of the above problems faced by farmers, traders, XYZ (Name of the promoter/Entrepreneur) finds the suitable economic opportunity in establishing modern state of art cold storage unit.

2. Problem Statement and Business Opportunity

A 2000 MT cold storage will be established and run on a rental model. Which means farmers/traders can store their produce for certain period of time and promoter can charge some amount in lieu of service be provided to the farmers and traders.

Multiple commodities are handled at such facilities, including nor-horticulture products.

However, promoter can explore different business strategy based on the financial viability of the project. For example, they can also adopt combined model of rental and trading. This means some portion of storage space will be used as rental whereas remaining portion of storage space can be utilized by promoter to store horticulture produce by way of procuring at reasonable price

during harvest period and selling out beyond the season at a higher price.

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3. Intended Impact of Project

I. Financial Benefits to the promoter, Farmers and Other value chain Actor

Cold Storage will be operated on rental basis i.e. Wholesaler and other value chain actors will store their produce for particular period of time and promoter will charge amount for the services. Stored produce will remain afresh for longer period of time thereby increased shelf life of horticulture produce. All statehooder's will get good financial return.

II. Generating Local Employment

Modern state of art cold storage unit generates local employment. It is estimated that it would generate direct employment of about 8 workers and indirect employment of another 10 workers. Most of the manpower requirement will be met from the local area.

III. Local Economic Cluster Development

Local Economic cluster would develop in the vicinity of the cold storage unit there by increased economic of scale. Cold storage would attract other investors as well for setting up similar of related project units i.e. ripening chamber, environmentally controlled retail outlets etc.

4. Location of the Proposed Cold Storage Unit

Cold Storage unit will be established inblock of district of Bihar. Location is well connected with national and state highway. Nearby railway station is less than 10 km of the project site.

5. Financial Assistance from Bihar Horticulture Development Society

Since cold storage type -II of of 2000 MT capacity is being established, so as per MIDH guidelines project cost would be 200 Lakh¹, XYZ promoter/Entrepreneur/FPC/FPOs would get 70 lakh subsidies (35%) from Bihar Horticulture Development Society based on the recommendation of Joint Inspection team. Guidelines² for availing financial assistance are given in **Annexure -i**.

6. Technical Specification of Construction of Cold Storage

The unit will be equipped with some of the best and modern plant and machinery available. Equipment providers for the unit will be reputed firms in their industry. Technology for the unit will be chosen carefully keeping in mind the best practices observed in India.

During construction all mandatory rules & regulations (BIS, ISO, IS etc.) relevant to the items will be complied with. Detailed technical specifications are mentioned in **Annexure-ii**

¹ The admissible cost for Cold Storage Type-II is Rs. 10000.00 per MT

² This subsidy is Credit Linked subsidy, so bank loan is compulsory, Loan amount should be equal or more than subsidy amount any individual/ firm and FPOs/FPCs want to avail.

7. Financial Analysis

The estimated project cost is Rs 468 Lakh. The cost estimates are provided by on the basis of quotations received from suppliers and estimates given by chartered engineers. The detailed breakup of the cost of the Project is given below:

7.1 Civil Construction Cost

For Construction of 2000 MT cold storage type-II, XYZ entrepreneur/ promoter establishing 8 chambered cold storage of following dimensions.

S. No.	Descriptions	Amount (in Lakh)
1	8 Chamber Cold Rooms of dimensions 12mx8mx9m each With Dry shed Pre-Cooling Unit: 3.5mx4mx9m(Optional)	363.00
	Total -A	363.00

7.2 Plant & Machinery Cost

S. No.	Tentative list of Machines ³	No.	Tentative Cost of Machines (In Lakh.)
1	Evaporator and Condensing Unit	8	103.8
2	Control System Panel	8	1.20
	Total-B		105.00
	Grand Total (A+B)		468.00

Note: Figures are only tentative and may change depending upon the business requirement.

³ For getting deeper understanding about Cold Storage Type-II, please refer “Guidelines & minimum System Standards for Implementation in Cold-chain Components” <https://nhb.gov.in/pdf/NCCDGuidelines2014-15.pdf>
Page No. 19-32

8. Project at a Glance-Financial

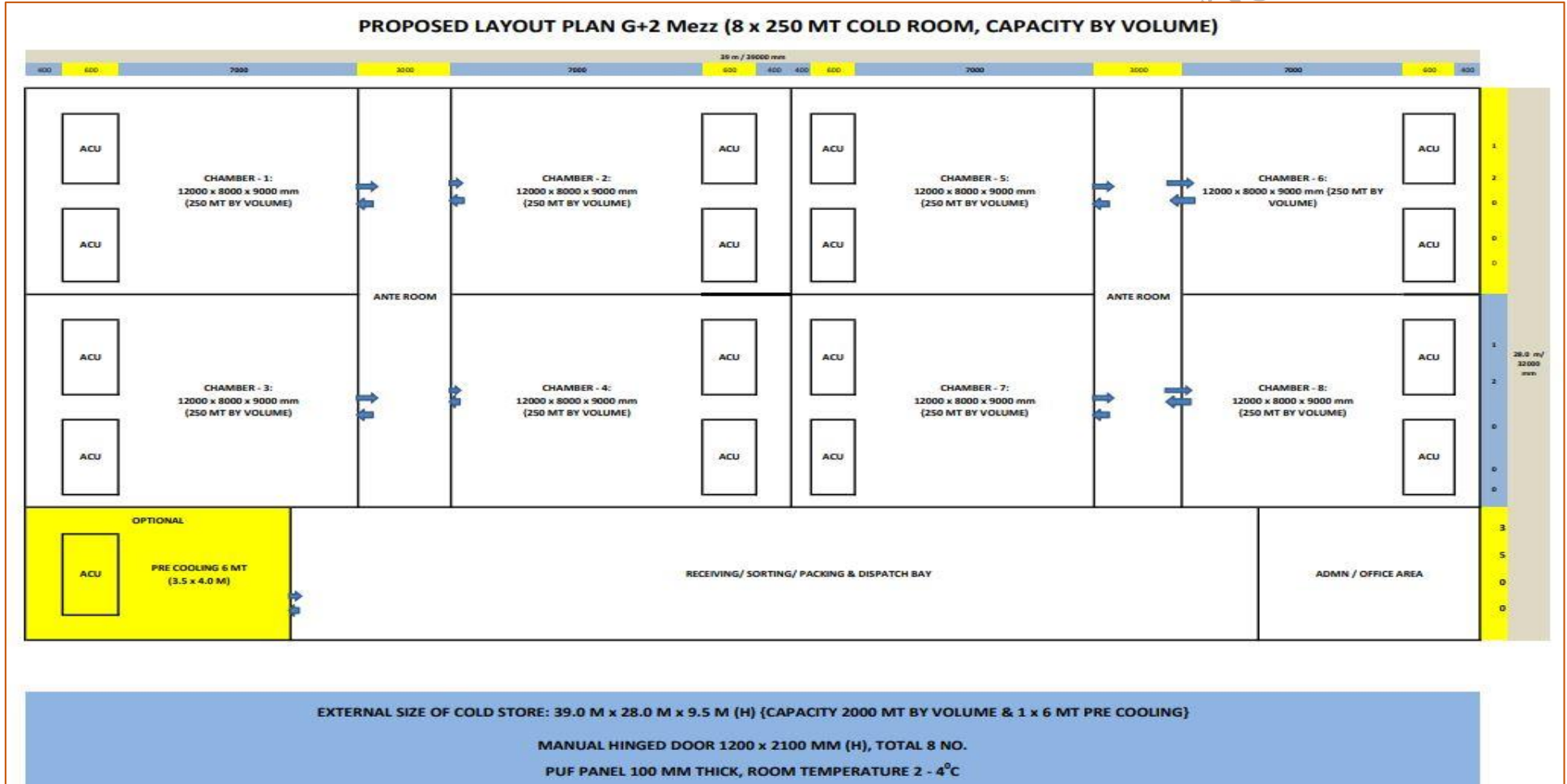
S. No	Particulars	Particulars
1	Name of the Unit	:
2	Constitution	:
3	Date of Incorporation	:
4	PAN	:
5	CIN or registration number	:
6	GST	:
7	Registered Office	:
8	Factory Address	:
9	Type of Unit	:
10	Nature of Project	: Cold Storage Type - II
11	Installed Capacity at 100% capacity utilization	: 2000 MT
12	Cost of Project	: 468.00 Lacs
13	Promoter's Contribution	: 140.40 Lacs
14	Proposed Term Loan	: 327.60 Lacs
15	Cash Credit Limit	: Nil
16	Proposed Employment	: 8 no. of manpower
17	NP Ratio	: 1st year - 11.81%
		: 2nd Year - 25.73%
		: 3rd Year - 36.50%
		: 4th Year - 43.68%
		: 5th Year - 50.31%
18	Gross DSCR	: 1.76
19	Net DSCR	: 2.00
20	Break Even Point	: 82.74%

Detailed financial status of the project is appended as **annexure iv**. It is compulsory for promoter/ entrepreneurs to submit detailed financial status of the project along with DPR for getting to understand about financial viability of the project.



8. Layout Plan for Cold Storage Unit

An indicative site layout plan is provided below



For above cold storage area required: - 2400 square Meter Area required
(Built up area 1500 Square meter, Assembling Area 450 Square (~30% of the built-up) and for movement of the vehicle 450 Square meter)

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Annexure-i: - Guidance for Availing Financial Assistance

An entrepreneur/promoter/FPC/FPOs can avail assistance for establishment of cold storage @ 35% of admissible project cost in general areas as credit linked and back ended subsidy. The admissible cost for Cold Storage Type-II is Rs. 10000.00 per MT (for Max 5000 MT).

Subsidy amount would be decided only after physical verification by Joint Inspection Team (JIT). First installments (50%) will be released after construction of civil structure and purchasing of equipment and machineries. Once the commercial operation start, second installments (50%) will be released duly verified by JIT.

Annexure-ii: - Important Instructions for Establishing Cold Storage Unit

- **For measurement of the capacity of cold storage:** 11 cubic meter/388.461 cubic feet volume is equivalent 1MT capacity of cold storage
- **No. of Chamber and Capacity of Each Chamber:** Type -II cold storage should be used for multiple products uses with more than 6 chambers and each chamber would have not more than 250 MT capacity. Small capacity cold stores would normally incur a higher than existing prorata cost per ton as applicable. Since, such cold stores would normally suit small entrepreneurs /farmer group's need, it is recommended that such projects be assessed on a case-to-case basis, for techno-commercial viability and appraisal.
- **All Mandatory rules & regulations (BIS, ISO, IS etc.) relevant to the item must be complied with.**
- **Important Note for availing bank loan:**
- Bank loan amount should be same or more the subsidy amount

Annexure-iii: List of Machineries/PUF panel Supplier

#	Name of the Company
1	ICE Make
2	Frick India Ltd
3	Trufrost Butler
4	Carrier Transicold
5	Blue Star
6	Panasonic Life Solutions India Pvt. Ltd.

Note: This is just an indicative list; investors may explore other machineries suppliers

Model Project Report Cold Storage Type-II



Annexure iv: Add on Technology for Controlled Atmosphere and Technology Induction and Modernization Of Cold-Chain

As per the Mission for integrated development of horticulture, there is subsidy provision for add on Technology for controlled atmosphere for cold storage type-2 and technology induction and modernization of cold-chain and add on technology for Controlled Atmosphere for cold storage.

Storage Units Type 2 with add on technology for Controlled Atmosphere: -

S. No.	Items	Cost Norms	Items	Description	Admissible Cost	Pattern of Assistance
1	Cold Storage Units Type 2 with add on technology for Controlled Atmosphere	Additional Rs. 10,000/MT for add on components of controlled atmosphere technology.	1. CA Generator	Inclusive of sensors, pressure equalizing equipment, controls	Rs. 125.00 lakh per unit, maximum 2 generators	Subsidy: - 50%
			2. Specialized CA Doors	Add-on specialization to storage doors for positive pressure chambers.	Rs. 2.50 lac per door, maximum 20 doors	
			3. CA Tents	Low-cost enclosure of polyethyelene PVC, mylar or other impermeable body for existing or new cold stores	As per original invoice, maximum 5 enclosures	
			4. Programmed Logic Controller (PLC) equipment	Electronic and electrical logic controls for machinery & Equipment for existing or new cold stores.	50% of cost as per original invoice, maximum Rs 10 lakh	
			5. Dock Levelers system	In existing or new storages	Max Rs. 7 lakh per unit, max 5 units	
			6. Warehouse Development & Regulatory Authority (WDRA) / Negotiable Warehouse Receipt (NWR) system, equipment	Computers and printers & software for use with NWR of WDRA	100% of cost as per original invoice, maximum Rs. 2 lakh	
			7. Specialized Packaging	Automated packaging lines for fruits & vegetables with farm code labelling, with packaging material	100% of cost as per invoice, maximum Rs. 15 lakh per project	
			8. High Reach Material Handling Equipment (MHE)	specialized material Handling equipment	Rs. 17 lakh per unit, for max 2 units.	
			9. Reefer Container	Reefer container for use on existing chassis trailers	Max Rs. 6 lakh per 9MT (20 foot container)	
			10. Advanced Grader	computerized, Optical Grading Lines, with packaging material	100% of cost as per original invoice, max Rs. 75 lakh per line	
			11. Stacking system	Racking system Bins, Pallets, for existing or new cold stores.	100% of invoice cost, max Rs 2000/MT	

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			13. Retail Shelf / equipment	Temperature controlled retail cabinets or merchandising equipment	Maximum Rs. 10 lakhs per establishment	
			14. Alternate Technology	Vapour Absorption, Phase change material, Solar PV panels or Solar Thermal sys	100% of cost as per invoice, maximum Rs. 35 lakhs per project	

Technology Induction and Modernization of Cold Chain (including cold Storage Type-1)

S. No.	Items	Cost Norms	Items	Description	Admissible Cost	Pattern of Assistance
1	Technology induction and modernization of cold chain	Max Rs. 250.00 lakh	1. Programmed Logic Controller	Electronic and electrical logic controls for machinery & Equipment for existing or new cold stores.	50% of cost as per original invoice, maximum Rs 10 lakh	Subsidy: - 50%
			2. (PLC) equipment			
			3. Dock Levelers system	In existing or new storages	Max Rs. 7 lakh per unit, max 5 units	
			4. Modernization of insulation	For repair or modernizing of cold chamber insulation	50% of cost as per original invoice, maximum Rs.100 lakh @ Rs. 1500/MT	
			5. Modernization of refrigeration	For upgrading of evaporator system, compressor system	50% of cost as per original invoice, maximum Rs. 100 lakh @ Rs. 2500/MT	
			6. Advanced Grader	Computerized, Optical Grading Lines, with packaging material	100% of cost as per original invoice, max Rs. 75 lakh per line	
			7. Stacking system	Racking system Bins, Pallets, for existing or new cold stores.	100% of invoice cost, max Rs 2000/MT	
			8. Alternate Technology	Vapor Absorption, Phase change material, Solar PV panels or Solar Thermal sys	100% of cost as per invoice, maximum Rs. 35 lakhs per project	
			9. Warehouse Development & Regulatory Authority (WDRA) / Negotiable Warehouse Receipt (NWR) system, equipment	Computers and printers & software for use with NWR of WDRA	100% of cost as per original invoice, maximum Rs. 2 lakhs	

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Annexure-v: Checklist for Cold Storage Application

1. Partnership/LLP/Company/ Proprietorship paper, if applicable
2. KYC Document of Proprietor/Director/Partner
3. Board Resolution of signatory, if applicable
4. Land Documents-LPC & Land Receipt/Land Lease document/Sale Deed
5. DPR including financial project viability (Duly Signed by Chartered Accountant)
6. Layout plan, Map, Estimate (clear stating type of cold storage being constructed) (Duly Signed by Chartered Engineer)
7. Notarized Declaration stating that Fixed Cost Subsidy from other sources has/will not been claimed.
8. Quotation of the various machinery components
9. In principal sanction letter or sanction letter from bank and loan appraisal document
10. Commissioning License issued from District Horticulture Office
11. Consent to establishment form BSPCB (Pollution control board)
12. Water testing certificate
13. Soil Testing certificate

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Annexure-vi: Detailed Financial Projection of the Project

Model Project Report Cold Storage Type-II

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COLD STORAGE TYPE - II

Project at a glance

S.No	Particulars		Particulars
1	Name of the Unit	:	
2	Constitution	:	
3	Date of Incorporation	:	
4	PAN	:	
5	CIN or registration number	:	
6	GST	:	
7	Registered Office	:	
8	Factory Address	:	
9	Type of Unit	:	
10	Nature of Project	:	Cold Storage Type - II
11	Installed Capacity at 100% capacity utilization	:	2000 MT
12	Cost of Project	:	468.00 Lacs
13	Promoter's Contribution	:	140.40 Lacs
14	Proposed Term Loan	:	327.60 Lacs
15	Cash Credit Limit	:	Nil
16	Proposed Employment	:	8 no. of manpower
17	NP Ratio	:	1st year - 11.81%
			2nd Year - 25.73%
			3rd Year - 36.50%
			4th Year - 43.68%
			5th Year - 50.31%
18	Gross DSCR	:	1.76
19	Net DSCR	:	2.00
20	Break Even Point	:	82.74%

COLD STORAGE TYPE - II

COST OF PROJECT

S.No.	Particulars	Supplier	Amount
1	Civil Construction including Plumbing, Electrical etc	As per Industry Standards	₹ 363.00
2	Plant and Machinery	As per Industry Standards	₹ 105.00
		Total Cost	₹ 468.00

MEANS OF FINANCE

S.No.	Particulars	Percentage	Amount
1	Owners Contribution (Including subsidy)	30%	₹ 140.40
2	Bank Loan	70%	₹ 327.60
		Total Funds	₹ 468.00

Loan Amortization Schedule

Loan Terms

Loan Amount	327.60
Annual Interest	12.00%
Loan Period in Years	5
Payment Frequency	Monthly
Compound Frequency	Annual
Payment Type	End of Period
First Payment Date	4/30/2023

Results & Summary

Annual Interest Rate	0.949%
Number of Scheduled Payments	60
Total Scheduled Payments	431.17
Total Interest	103.57
Actual Number of Payments	60
Total of Payments	431.17
Total Interest	103.57
Estimated Saved Interest	0.00

Amortization Schedule Payment Schedule

Rounding On

Monthly Payment	7.19
Pay Off Date	3/30/2028

Amortization Schedule

No.	Payment Date	Scheduled Payment	Additional Payment	Total Payment	Interest	Principal	Balance
							327.60
1	4/30/2023	7.19	0.00	4.08	3.11	4.08	323.52
2	5/30/2023	7.19	0.00	4.12	3.07	4.12	319.41
3	6/30/2023	7.19	0.00	4.16	3.03	4.16	315.25
4	7/30/2023	7.19	0.00	4.19	2.99	4.19	311.06
5	8/30/2023	7.19	0.00	4.23	2.95	4.23	306.82
6	9/30/2023	7.19	0.00	4.27	2.91	4.27	302.55
7	10/30/2023	7.19	0.00	4.32	2.87	4.32	298.23
8	11/30/2023	7.19	0.00	4.36	2.83	4.36	293.87
9	12/30/2023	7.19	0.00	4.40	2.79	4.40	289.48
10	1/30/2024	7.19	0.00	4.44	2.75	4.44	285.04
11	3/1/2024	7.19	0.00	4.48	2.70	4.48	280.56
12	3/30/2024	7.19	0.00	4.52	2.66	4.52	276.03
13	4/30/2024	7.19	0.00	4.57	2.62	4.57	271.47
14	5/30/2024	7.19	0.00	4.61	2.58	4.61	266.86
15	6/30/2024	7.19	0.00	4.65	2.53	4.65	262.20
16	7/30/2024	7.19	0.00	4.70	2.49	4.70	257.50
17	8/30/2024	7.19	0.00	4.74	2.44	4.74	252.76
18	9/30/2024	7.19	0.00	4.79	2.40	4.79	247.97
19	10/30/2024	7.19	0.00	4.83	2.35	4.83	243.14
20	11/30/2024	7.19	0.00	4.88	2.31	4.88	238.26
21	12/30/2024	7.19	0.00	4.93	2.26	4.93	233.34
22	1/30/2025	7.19	0.00	4.97	2.21	4.97	228.36
23	3/2/2025	7.19	0.00	5.02	2.17	5.02	223.34
24	3/30/2025	7.19	0.00	5.07	2.12	5.07	218.28
25	4/30/2025	7.19	0.00	5.11	2.07	5.11	213.16
26	5/30/2025	7.19	0.00	5.16	2.02	5.16	208.00
27	6/30/2025	7.19	0.00	5.21	1.97	5.21	202.79
28	7/30/2025	7.19	0.00	5.26	1.92	5.26	197.52
29	8/30/2025	7.19	0.00	5.31	1.87	5.31	192.21
30	9/30/2025	7.19	0.00	5.36	1.82	5.36	186.85
31	10/30/2025	7.19	0.00	5.41	1.77	5.41	181.44
32	11/30/2025	7.19	0.00	5.46	1.72	5.46	175.97
33	12/30/2025	7.19	0.00	5.52	1.67	5.52	170.46
34	1/30/2026	7.19	0.00	5.57	1.62	5.57	164.89
35	3/2/2026	7.19	0.00	5.62	1.56	5.62	159.27
36	3/30/2026	7.19	0.00	5.67	1.51	5.67	153.59
37	4/30/2026	7.19	0.00	5.73	1.46	5.73	147.86
38	5/30/2026	7.19	0.00	5.78	1.40	5.78	142.08
39	6/30/2026	7.19	0.00	5.84	1.35	5.84	136.24
40	7/30/2026	7.19	0.00	5.89	1.29	5.89	130.35
41	8/30/2026	7.19	0.00	5.95	1.24	5.95	124.40
42	9/30/2026	7.19	0.00	6.01	1.18	6.01	118.39
43	10/30/2026	7.19	0.00	6.06	1.12	6.06	112.33
44	11/30/2026	7.19	0.00	6.12	1.07	6.12	106.21
45	12/30/2026	7.19	0.00	6.18	1.01	6.18	100.03
46	1/30/2027	7.19	0.00	6.24	0.95	6.24	93.79
47	3/2/2027	7.19	0.00	6.30	0.89	6.30	87.50
48	3/30/2027	7.19	0.00	6.36	0.83	6.36	81.14
49	4/30/2027	7.19	0.00	6.42	0.77	6.42	74.73
50	5/30/2027	7.19	0.00	6.48	0.71	6.48	68.25
51	6/30/2027	7.19	0.00	6.54	0.65	6.54	61.71
52	7/30/2027	7.19	0.00	6.60	0.59	6.60	55.11
53	8/30/2027	7.19	0.00	6.66	0.52	6.66	48.45
54	9/30/2027	7.19	0.00	6.73	0.46	6.73	41.72
55	10/30/2027	7.19	0.00	6.79	0.40	6.79	34.93
56	11/30/2027	7.19	0.00	6.85	0.33	6.85	28.08
57	12/30/2027	7.19	0.00	6.92	0.27	6.92	21.16
58	1/30/2028	7.19	0.00	6.99	0.20	6.99	14.17
59	3/1/2028	7.19	0.00	7.05	0.13	7.05	7.12
60	3/30/2028	7.19	0.00	7.12	0.07	7.12	0.00

YEARLY SUMMARY OF BANK LOAN

Year	Opening Balance	Interest	Principal Repayment	Balance
1st Year	327.60	34.67	51.57	276.03
2nd Year	276.03	28.48	57.76	218.28
3rd Year	218.28	21.55	64.69	153.59
4th Year	153.59	13.79	72.45	81.14
5th Year	81.14	5.09	81.14	0.00
	Total	103.57	327.60	729.04

COLD STORAGE TYPE - II**RENTAL INCOME**

Rs. In Lacs

Year	1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year
Capacity Utilization	50.00%	55.00%	60.00%	62.00%	65.00%	68.00%
Capacity	2000 MT	2000 MT	2000 MT	2000 MT	2000 MT	2000 MT
Rent per MT per day	35.00	37.00	39.00	41.00	43.00	45.00
No. of days	365	365	365	365	365	365
Yearly Rent	127.75	148.56	170.82	185.57	204.04	223.38

MANPOWER COST

S.No	Manpower	No. of Employee	Monthly Salary	Salary Per Year
1	Manager	1	15000.00	180000.00
2	Skilled Worker	3	10000.00	360000.00
2	Unskilled Worker	4	8000.00	384000.00
	Total	4	33,000.00	9,24,000.00

Year	1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year
Salary Cost	9.24	9.70	10.19	10.70	11.23	11.79

* Salary Cost has been increased by 5% each year

ELECTRICITY EXPENSES

Year	1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year
Total Usage hours per day	8.00	8.00	8.00	8.00	8.00	8.00
Total Usage Working Hours in a year	2920.00	2920.00	2920.00	2920.00	2920.00	2920.00
Cost per Hour	325.00	357.50	393.25	432.58	475.83	523.42
Electricity Cost	9.49	10.44	11.48	12.63	13.89	15.28

COLD STORAGE TYPE - II
DEPRECIATION

Year	1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year
Opening Civil/ Structure	363.00	326.70	294.03	264.63	238.16	214.35
Depreciation @ 10%	36.30	32.67	29.40	26.46	23.82	21.43
Closing Civil/ Structure	326.70	294.03	264.63	238.16	214.35	192.91

Year	1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year
Opening P & M	105.00	89.25	75.86	64.48	54.81	46.59
Depreciation @ 15%	15.75	13.39	11.38	9.67	8.22	6.99
Closing P & M	89.25	75.86	64.48	54.81	46.59	39.60

Total Depreciation	52.05	46.06	40.78	36.14	32.04	28.42
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COLD STORAGE TYPE - II

PROJECTED BALANCE SHEET

Year	1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year
Owners Capital	140.40	140.40	140.40	140.40	140.40	140.40
Bank Loan	276.03	218.28	153.59	81.14	-	-
Grant from BHDS	-	-	-	-	-	-
Reserves and Surplus	15.08	53.30	115.66	196.71	299.36	421.11
CC Loan	-	-	-	-	-	-
Unsecured Loan	-	-	-	-	-	-
Current Liabilities	-	-	-	-	-	-
TOTAL :	431.52	411.98	409.65	418.25	439.76	561.51
Gross Block	468.00	415.95	369.89	329.11	292.97	260.94
Less: Depreciation	52.05	46.06	40.78	36.14	32.04	28.42
Net Block	415.95	369.89	329.11	292.97	260.94	232.51
Investment	-	-	-	-	-	-
Current Assets						
Raw Materials	-	-	-	-	-	-
Finished Goods	-	-	-	-	-	-
Consumable Stores	-	-	-	-	-	-
Sundry Debtors	10.65	12.38	14.24	15.46	17.00	18.62
Cash & Bank	4.92	29.71	66.30	109.81	161.82	310.38
Other Current Assets	-	-	-	-	-	-
	15.57	42.09	80.54	125.27	178.82	329.00
Preliminary Expenses	-	-	-	-	-	-
TOTAL :	431.52	411.98	409.65	418.25	439.76	561.51

COLD STORAGE TYPE - II

PROJECTED PROFIT AND LOSS ACCOUNT

Year	1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year
Rental Income	127.75	148.56	170.82	185.57	204.04	223.38
Other Income	-	-	-	-	-	-
Total Income	127.75	148.56	170.82	185.57	204.04	223.38
Cost						
Electricity Expenses	9.49	10.44	11.48	12.63	13.89	15.28
Manpower Cost	9.24	9.70	10.19	10.70	11.23	11.79
Repairs & Maintainance	1.28	1.49	1.71	1.86	2.04	2.23
Misc Expenses	0.64	0.74	0.85	0.93	1.02	1.12
Total Expenses	20.65	22.37	24.23	26.12	28.19	30.43
Profit before Intt. & Dep.	107.10	126.18	146.59	159.45	175.85	192.95
Depreciation	52.05	46.06	40.78	36.14	32.04	28.42
Interest	34.67	28.48	21.55	13.79	5.09	-
Profit Before Tax	20.38	51.65	84.26	109.53	138.72	164.53
Income Tax	5.30	13.43	21.91	28.48	36.07	42.78
Profit After Tax	15.08	38.22	62.35	81.05	102.65	121.75

COLD STORAGE TYPE - II

GROSS DSCR ANALYSIS

Year	1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year
Profit after taxation	15.08	38.22	62.35	81.05	102.65	121.75
Interest on loan	34.67	28.48	21.55	13.79	5.09	0.00
Depreciation	52.05	46.06	40.78	36.14	32.04	28.42
CASH ACCRUALS :-	101.80	112.76	124.68	130.97	139.78	150.18
Repayment of term loan	51.57	57.76	64.69	72.45	81.14	0.00
Interest on term loan	34.67	28.48	21.55	13.79	5.09	0.00
REPAYMENT OBLIGATION :-	86.23	86.23	86.23	86.23	86.23	0.00
GROSS DSCR	1.18	1.31	1.45	1.52	1.62	NA

$$\text{GROSS DSCR (as a whole)} = \frac{\text{Cash Accruals}}{\text{Repayment Obligation}} = \frac{760.17}{431.17} = 1.76$$

NET DSCR ANALYSIS

Year	1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year
Profit after taxation	15.08	38.22	62.35	81.05	102.65	121.75
Depreciation	52.05	46.06	40.78	36.14	32.04	28.42
CASH ACCRUALS :-	67.13	84.28	103.13	117.19	134.69	150.18
Repayment of term loan	51.57	57.76	64.69	72.45	81.14	0.00
REPAYMENT OBLIGATION :-	51.57	57.76	64.69	72.45	81.14	0.00
NET DSCR	1.30	1.46	1.59	1.62	1.66	NA

$$\text{NET DSCR (as a whole)} = \frac{\text{Cash Accruals}}{\text{Repayment Obligation}} = \frac{656.60}{327.60} = 2.00$$

COLD STORAGE TYPE - II

B.E.P. OF THE PROJECT

Year	1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year
A. Sales/ Rental Income	127.75	148.56	170.82	185.57	204.04	223.38
B. Variable Cost						
Cost of Materials	0.00	0.00	0.00	0.00	0.00	0.00
Adjustment for stock	0.00	0.00	0.00	0.00	0.00	0.00
Adm. Expenses (25%)	0.16	0.19	0.21	0.23	0.26	0.28
Consumables	0.00	0.00	0.00	0.00	0.00	0.00
Power & Fuel	9.49	10.44	11.48	12.63	13.89	15.28
Other Expenses	0.00	0.00	0.00	0.00	0.00	0.00
Interest on W.C Loan	0.00	0.00	0.00	0.00	0.00	0.00
Total Variable Cost	9.65	10.62	11.70	12.86	14.15	15.56
C. Fixed & Semi- Variable Exp.						
Salary & Wages	9.24	9.70	10.19	10.70	11.23	11.79
Repair & Maintenance	1.28	1.49	1.71	1.86	2.04	2.23
Adm. Expenses (75%)	0.48	0.56	0.64	0.70	0.77	0.84
Interest on Term Loan	34.67	28.48	21.55	13.79	5.09	0.00
Depreciation	52.05	46.06	40.78	36.14	32.04	28.42
Total Fixed & Semi- Var. Exp.	97.72	86.28	74.86	63.17	51.17	43.29
Contribution (A - B)	118.10	137.93	159.12	172.70	189.89	207.82
PV Ratio	92.45	92.85	93.15	93.07	93.07	93.03
Operating Profit	20.38	51.65	84.26	109.53	138.72	164.53
Break Even Point	82.74%	62.55%	47.05%	36.58%	26.95%	20.83%
Margin of Safety (%)	7.55%	7.15%	6.85%	6.93%	6.93%	6.97%

COLD STORAGE TYPE - II

PAY BACK PERIOD

Year	1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year
Cash Outflow	-140.40	0.00	0.00	0.00	0.00	0.00
Cash Inflow (PAT + Depreciation)	67.13	84.28	103.13	117.19	134.69	150.18
Total Inflow	-73.27	84.28	103.13	117.19	134.69	150.18

Project Pay back Period is **3 years and 3 months**