



AN ISO 9001 : 2015 CERTIFIED COMPANY

Detailed project report

Sample edition

Projections from FY 2027-28

Project report

Maize Starch

Installed capacity 20 MT per day

Sector Grain milling

Total project cost ₹328.80 lakh

Illustrative sample
Figures are representative

Project at a glance

Maize Starch
20 MT per day

Product	Maize Starch	Sector	Grain milling
Installed capacity	20 MT per day	Annual capacity	6,000 MT per year
Selling price (ex-GST)	₹30,200 per MT	Working days	300 a year
Manpower	26 people	Plant and machinery	₹152.15 lakh
Total project cost	₹328.80 lakh	Promoter's contribution	₹82.20 lakh (25%)
Term loan	₹246.60 lakh (75%)	Cash credit limit	₹95.00 lakh
Revenue, Year 3	₹1,268.40 lakh at 70%	Net profit, Year 3	₹94.41 lakh
Return on investment	28.7% a year	Break-even, Year 3	36.5% of capacity
Average DSCR	2.15	Payback period	3.0 years

This is an illustrative sample. Its figures are generated from industry-typical ratios to show the format and depth of an NPCS project report. They are not taken from any NPCS report or any real project, and should not be used for investment or lending decisions.

Contents

1	Introduction	12	Projected profitability
2	Uses and applications	13	Cash flow statement
3	Market potential	14	Projected balance sheet
4	Manufacturing process	15	Depreciation
5	Raw materials	16	Term loan repayment
6	Plant and machinery	17	Debt service coverage
7	Land, building and utilities	18	Break-even analysis
8	Manpower	19	Financial ratios
9	Licences and approvals	20	Key assumptions
10	Project cost and means of finance	21	Conclusion
11	Working capital	A	Annexure: monthly loan repayment schedule

1 Introduction

The project modelled here is a unit producing maize starch in the grain milling sector, sized at 20 MT per day. Working 300 days a year, the plant can turn out 6,000 MT per year at full capacity. The product's applications range from paper and textile mills to adhesive makers.

The sections that follow show how such a unit would be costed and financed, and how its profit, cash flow and loan repayment would look over the first five years. At 70% capacity utilisation in Year 3, the model unit earns revenue of ₹1,268.40 lakh and a net profit of ₹94.41 lakh.

2 Uses and applications

The product is bought for these main uses:

- Paper and textile mills
- Food processors
- Pharmaceutical makers
- Adhesive makers

3 Market potential

Maize starch is bought in bulk by paper, textile, adhesive and corrugation units, and in food grade by food processors and pharmaceutical makers. A wet milling unit also sells germ, gluten and fibre by-products to oil mills and feed makers, and these credits decide whether the starch price covers the maize cost. Units compete on steady quality, moisture and whiteness, buying maize close to harvest and keeping freight to buyers low.

Sales are typically made to paper and board mills, textile sizing units, corrugated box and adhesive makers, food processors and corn flour packers, pharmaceutical tablet makers, and liquid glucose and dextrose units.

A full NPCS report adds a market survey with present demand, expected growth and the names and addresses of existing manufacturers, worked out for the location you choose.

4 Manufacturing process

Production of maize starch follows five main steps, from steeping to bagging. The flow chart shows how material moves through the plant.



Process flow for maize starch

- 1 Steeping.** Maize is soaked in water.
- 2 Milling.** Grain is milled to free the germ and starch.
- 3 Separation.** Starch is separated from fibre and gluten.
- 4 Drying.** Starch is dried.
- 5 Bagging.** Starch is bagged.

5 Raw materials

Raw materials account for 70% of sales at Year 3 volumes, a total of ₹888.24 lakh, with maize the biggest item in the mix.

Raw material	Share of cost	Year 3 cost (₹ lakh)
Maize	90.0%	799.42
Chemicals	10.0%	88.82
Total raw materials	100.0%	888.24

6 Plant and machinery

Plant and machinery accounts for ₹152.15 lakh of the project cost. The separators and hydrocyclones takes the largest share, and the other items and their indicative costs are listed below.

Machinery and equipment	Indicative cost (₹ lakh)
Steeping tanks	22.82
Degerminator and mills	30.43
Separators and hydrocyclones	38.04
Starch dryer	38.04
Effluent plant	22.82
Total plant and machinery	152.15

7 Land, building and utilities

Land and site development is taken at ₹29.15 lakh and building and civil works at ₹83.09 lakh. Other fixed assets, including electrification, furniture, testing equipment and power backup, add ₹13.74 lakh. Land rates vary widely by location, so these are the figures most likely to change in a real project.

Power and fuel cost ₹32.86 lakh in Year 3, about 2.6% of sales. Water is needed for cleaning, domestic use and, where the process calls for it, production.

8 Manpower

Staffing for the model unit is 26 people, at a Year 1 cost of ₹48.48 lakh. Wages are escalated by 5% each year in the projections.

Category	Number	Monthly wage (₹)	Annual cost (₹ lakh)
Management, supervision and administration	4	27,000	12.96
Skilled workers and operators	9	17,000	18.36
Semi-skilled and unskilled workers	13	11,000	17.16
Total (Year 1)	26		48.48

9 Licences and approvals

The main registrations and approvals for a unit like this are listed below. They differ from state to state, so check the current requirements with the relevant departments.

- Udyam (MSME) registration
- GST registration
- Consent to establish and consent to operate from the State Pollution Control Board
- Factory licence or registration under the applicable labour law, where the workforce threshold applies
- Fire safety NOC, where required
- Trade licence from the local body
- FSSAI licence for edible maize starch
- IS 1005 edible maize starch standard
- Legal Metrology registration for retail packs

10 Project cost and means of finance

Project cost is estimated at ₹328.80 lakh, including fixed assets of ₹289.89 lakh and margin money for working capital of ₹31.66 lakh.

Cost of project	₹ lakh
Land and site development	29.15
Building and civil works	83.09
Plant and machinery	152.15
Other fixed assets (electrification, furniture, lab equipment, DG set)	13.74
Contingencies	11.76
Preliminary and pre-operative expenses	7.25
Margin money for working capital	31.66
Total cost of project	328.80

Means of finance

The promoter contributes ₹82.20 lakh (25% of project cost) and a term loan funds the remaining ₹246.60 lakh. Working capital is supported by a cash credit limit of ₹95.00 lakh.

Source of funds	₹ lakh
Promoter's contribution (25%)	82.20
Term loan from bank (75%)	246.60
Total means of finance	328.80
<i>Cash credit limit for working capital (separate)</i>	<i>95.00</i>

11 Working capital

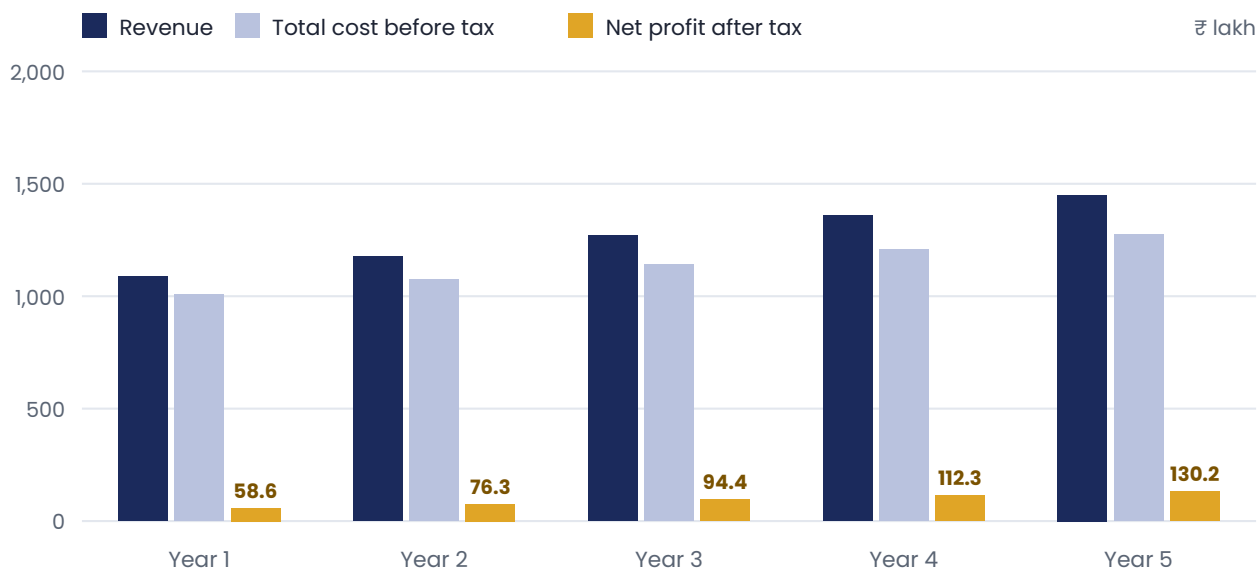
The unit needs ₹126.66 lakh of working capital in Year 1, based on 30 days of raw material stock, 10 days of finished goods and 20 days of customer credit, net of 10 days of supplier credit. Of this, ₹95.00 lakh comes from the bank and ₹31.66 lakh from the promoter.

Particulars (₹ lakh)	Year 1 FY 2027-28	Year 2 FY 2028-29	Year 3 FY 2029-30	Year 4 FY 2030-31	Year 5 FY 2031-32
Raw material stock (30 days)	62.58	67.79	73.01	78.22	83.44
Work in progress (1 days)	2.30	2.48	2.67	2.86	3.05
Finished goods (10 days)	24.01	25.96	27.91	29.87	31.84
Trade receivables (20 days)	59.57	64.54	69.50	74.47	79.43
Total current assets	148.46	160.77	173.09	185.42	197.76
Less: trade creditors (10 days)	21.80	23.61	25.43	27.25	29.06
Working capital requirement	126.66	137.16	147.66	158.17	168.70

12 Projected profitability

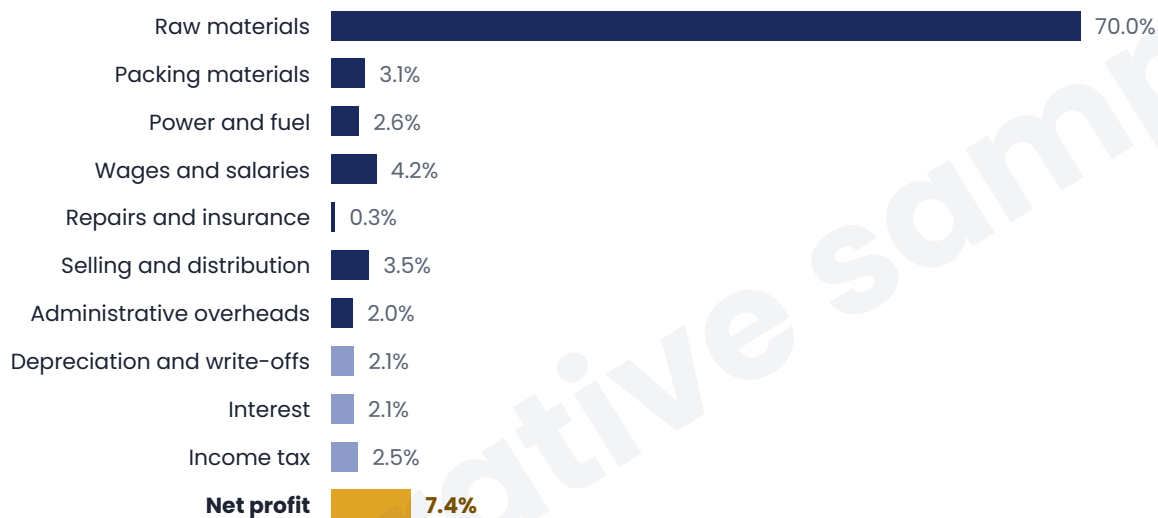
As utilisation climbs from 60% to 80%, sales increase from ₹1,087.20 lakh to ₹1,449.60 lakh. Operating profit in Year 3 is ₹179.35 lakh, a margin of 14.1%, and net profit after tax grows from ₹58.58 lakh in Year 1 to ₹130.22 lakh in Year 5.

Particulars (₹ lakh)	Year 1 FY 2027-28	Year 2 FY 2028-29	Year 3 FY 2029-30	Year 4 FY 2030-31	Year 5 FY 2031-32
Capacity utilisation (%)	60%	65%	70%	75%	80%
Revenue from operations	1,087.20	1,177.80	1,268.40	1,359.00	1,449.60
Raw materials consumed	761.34	824.79	888.24	951.68	1,015.13
Packing materials	34.25	37.10	39.95	42.81	45.66
Power and fuel	28.17	30.52	32.86	35.21	37.56
Wages and salaries	48.48	50.90	53.45	56.12	58.93
Repairs and maintenance	3.04	3.20	3.35	3.52	3.70
Insurance	1.04	1.04	1.04	1.04	1.04
Cost of production	876.32	947.55	1,018.89	1,090.38	1,162.02
Gross profit	210.88	230.25	249.51	268.62	287.58
Selling and distribution expenses	38.20	41.39	44.57	47.76	50.94
Administrative overheads	23.21	24.37	25.59	26.87	28.21
Operating profit (EBITDA)	149.47	164.49	179.35	193.99	208.43
Depreciation	34.05	29.46	25.49	22.08	19.13
Preliminary expenses written off	1.45	1.45	1.45	1.45	1.45
Interest on term loan	25.42	21.33	16.08	10.24	3.77
Interest on cash credit	10.45	10.45	10.45	10.45	10.45
Profit before tax	78.10	101.80	125.88	149.77	173.63
Income tax	19.52	25.45	31.47	37.44	43.41
Profit after tax	58.58	76.35	94.41	112.33	130.22



Revenue, total cost before tax and net profit after tax, ₹ lakh

Where each rupee of sales goes in Year 3



Each cost head as a percentage of Year 3 sales

13 Cash flow statement

Cash generated from profit and depreciation covers the term loan repayments in every year. The closing cash balance builds up to ₹320.71 lakh by the end of Year 5.

Particulars (₹ lakh)	Year 1 FY 2027-28	Year 2 FY 2028-29	Year 3 FY 2029-30	Year 4 FY 2030-31	Year 5 FY 2031-32
Sources of funds					
Promoter's contribution	82.20	–	–	–	–
Term loan from bank	246.60	–	–	–	–
Cash credit (working capital) from bank	95.00	–	–	–	–
Net profit after tax	58.58	76.35	94.41	112.33	130.22
Depreciation	34.05	29.46	25.49	22.08	19.13
Preliminary expenses written off	1.45	1.45	1.45	1.45	1.45
Increase in trade creditors	21.80	1.81	1.82	1.82	1.81
Total sources	539.68	109.07	123.17	137.68	152.61
Application of funds					
Fixed assets	289.89	–	–	–	–
Preliminary and pre-operative expenses	7.25	–	–	–	–
Increase in inventories	88.89	7.34	7.36	7.36	7.38
Increase in trade receivables	59.57	4.97	4.96	4.97	4.96
Repayment of term loan	22.03	47.67	52.92	58.75	65.23
Drawings	–	–	–	–	–
Total application	467.63	59.98	65.24	71.08	77.57
Net cash flow	72.05	49.09	57.93	66.60	75.04
Opening cash balance	–	72.05	121.14	179.07	245.67
Closing cash balance	72.05	121.14	179.07	245.67	320.71

14 Projected balance sheet

The projected balance sheet balances in every year. Net worth grows from ₹134.98 lakh at the end of Year 1 to ₹554.09 lakh at the end of Year 5, while the term loan outstanding falls from ₹224.57 lakh to nil.

As at year end (₹ lakh)	Year 1 FY 2027-28	Year 2 FY 2028-29	Year 3 FY 2029-30	Year 4 FY 2030-31	Year 5 FY 2031-32
Liabilities					
Promoter's capital	82.20	82.20	82.20	82.20	82.20
Reserves and surplus	58.58	134.93	229.34	341.67	471.89
Term loan	224.57	176.90	123.98	65.23	–
Cash credit from bank	95.00	95.00	95.00	95.00	95.00
Trade creditors	21.80	23.61	25.43	27.25	29.06
Total liabilities	482.15	512.64	555.95	611.35	678.15
Assets					
Gross fixed assets	289.89	289.89	289.89	289.89	289.89
Less: accumulated depreciation	(34.05)	(63.51)	(89.00)	(111.08)	(130.21)
Net fixed assets	255.84	226.38	200.89	178.81	159.68
Preliminary expenses not written off	5.80	4.35	2.90	1.45	–
Inventories	88.89	96.23	103.59	110.95	118.33
Trade receivables	59.57	64.54	69.50	74.47	79.43
Cash and bank balance	72.05	121.14	179.07	245.67	320.71
Total assets	482.15	512.64	555.95	611.35	678.15

15 Depreciation

Depreciation is charged on the written-down value method at Income Tax Act rates: 10% on building, 15% on plant and machinery and 10% on other fixed assets. Land is not depreciated, and preliminary expenses are written off over five years.

Particulars (₹ lakh)	Year 1 FY 2027-28	Year 2 FY 2028-29	Year 3 FY 2029-30	Year 4 FY 2030-31	Year 5 FY 2031-32
Building and civil works (cost ₹87.24 lakh, 10% WDV)					
Opening written-down value	87.24	78.52	70.67	63.60	57.24
Depreciation	8.72	7.85	7.07	6.36	5.72
Closing written-down value	78.52	70.67	63.60	57.24	51.52
Plant and machinery (cost ₹159.76 lakh, 15% WDV)					
Opening written-down value	159.76	135.80	115.43	98.12	83.40
Depreciation	23.96	20.37	17.31	14.72	12.51
Closing written-down value	135.80	115.43	98.12	83.40	70.89
Other fixed assets (cost ₹13.74 lakh, 10% WDV)					
Opening written-down value	13.74	12.37	11.13	10.02	9.02
Depreciation	1.37	1.24	1.11	1.00	0.90
Closing written-down value	12.37	11.13	10.02	9.02	8.12
Total depreciation	34.05	29.46	25.49	22.08	19.13
Preliminary expenses written off	1.45	1.45	1.45	1.45	1.45

16 Term loan repayment

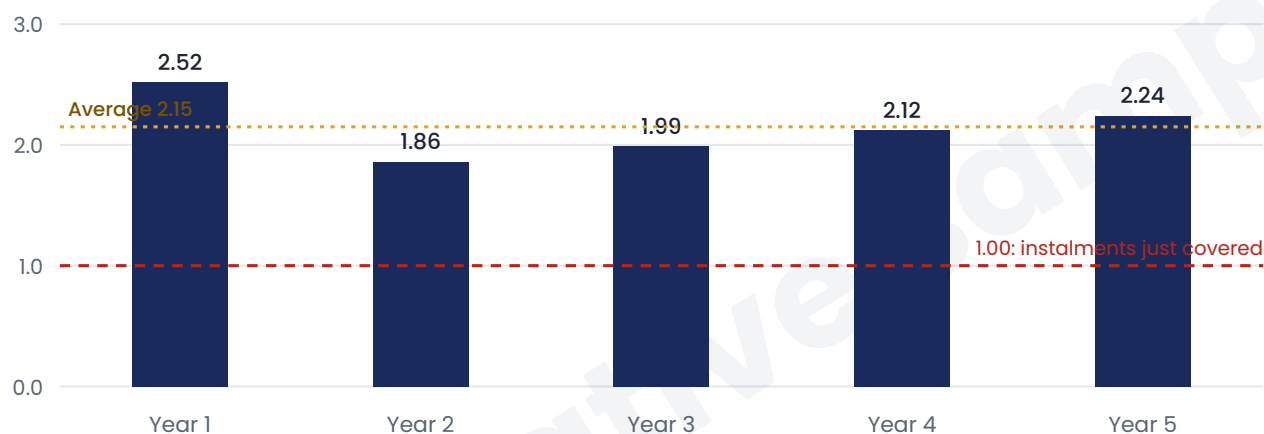
Repayment of the ₹246.60 lakh term loan starts after a moratorium of 6 months, during which interest at 10.5% is serviced. The loan is then cleared in 54 EMIs of ₹5,74,977 each, and the annexure gives the monthly schedule.

Particulars (₹ lakh)	Year 1 FY 2027-28	Year 2 FY 2028-29	Year 3 FY 2029-30	Year 4 FY 2030-31	Year 5 FY 2031-32
Opening balance	246.60	224.57	176.90	123.98	65.23
Interest	25.42	21.33	16.08	10.24	3.77
Principal repaid	22.03	47.67	52.92	58.75	65.23
Closing balance	224.57	176.90	123.98	65.23	—

17 Debt service coverage

The debt service coverage ratio averages 2.15 over the repayment years, with a low of 1.86 in Year 2. A DSCR above 1 means the unit earns enough to meet its loan instalments, and the model keeps a margin above that in every year.

Particulars (₹ lakh)	Year 1 FY 2027-28	Year 2 FY 2028-29	Year 3 FY 2029-30	Year 4 FY 2030-31	Year 5 FY 2031-32
Net profit after tax	58.58	76.35	94.41	112.33	130.22
Depreciation and write-offs	35.50	30.91	26.94	23.53	20.58
Interest on term loan	25.42	21.33	16.08	10.24	3.77
Total available for debt service (A)	119.50	128.59	137.43	146.10	154.57
Principal repayment	22.03	47.67	52.92	58.75	65.23
Interest on term loan	25.42	21.33	16.08	10.24	3.77
Total debt service (B)	47.45	69.00	69.00	68.99	69.00
DSCR (A / B)	2.52	1.86	1.99	2.12	2.24

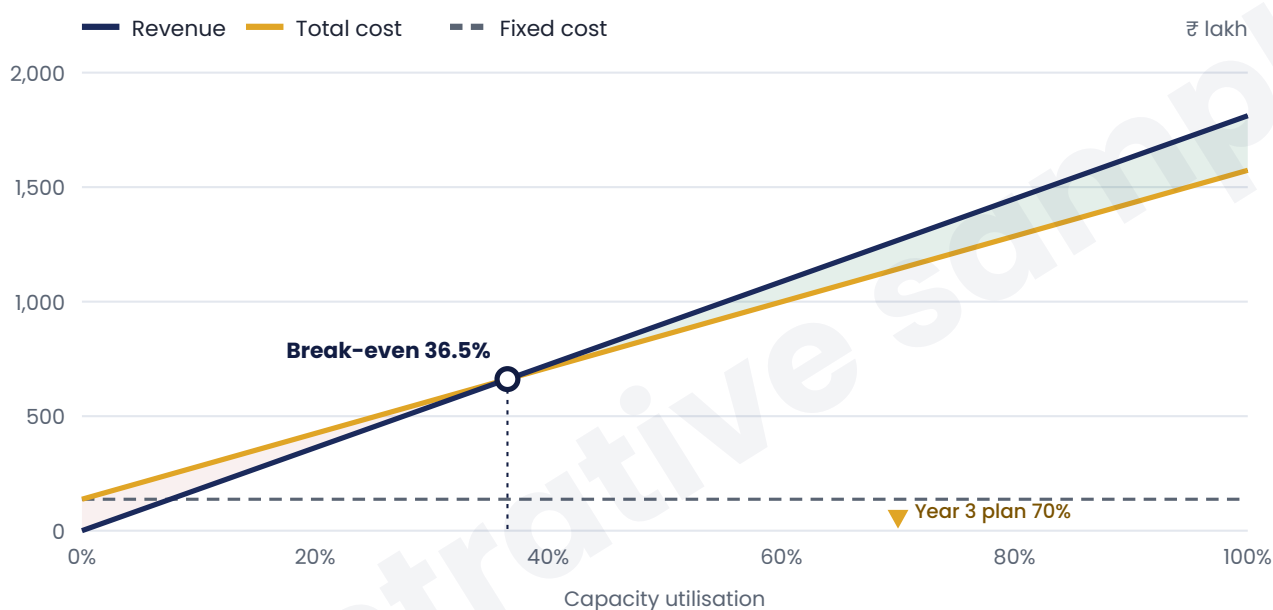


DSCR by year. A ratio above 1.00 means cash accruals cover the term loan instalments.

18 Break-even analysis

The break-even point in Year 3 is 36.5% of installed capacity. Below that level the unit would not cover its fixed costs, interest and depreciation; above it, each additional unit sold adds to profit. Cash break-even is lower, at 29.3%.

Particulars (₹ lakh)	Year 1 FY 2027-28	Year 2 FY 2028-29	Year 3 FY 2029-30	Year 4 FY 2030-31	Year 5 FY 2031-32
Revenue from operations	1,087.20	1,177.80	1,268.40	1,359.00	1,449.60
Variable costs	861.96	933.80	1,005.62	1,077.46	1,149.29
Contribution	225.24	244.00	262.78	281.54	300.31
Fixed costs (incl. depreciation and interest)	147.14	142.20	136.90	131.77	126.68
Break-even as % of installed capacity	39.2	37.9	36.5	35.1	33.7
Cash break-even as % of installed capacity	29.7	29.6	29.3	28.8	28.3
Break-even sales	710.22	686.41	660.80	636.06	611.49



Break-even chart at Year 3 prices and costs, scaled to full capacity. Shaded areas show the loss zone (left) and profit zone (right).

19 Financial ratios

The table summarises the main ratios a lender reviews. The current ratio is 1.89 or better in every year, and the debt-equity ratio falls from 1.66 at the end of Year 1 to zero by Year 5.

Ratio	Year 1 FY 2027-28	Year 2 FY 2028-29	Year 3 FY 2029-30	Year 4 FY 2030-31	Year 5 FY 2031-32
Current ratio	1.89	2.38	2.92	3.53	4.18
Quick ratio	1.13	1.57	2.06	2.62	3.23
Debt-equity ratio (term loan / net worth)	1.66	0.83	0.40	0.15	0.00
Total outside liabilities / net worth	2.53	1.39	0.79	0.44	0.22
Interest coverage ratio	3.18	4.20	5.74	8.24	13.21
DSCR	2.52	1.86	1.99	2.12	2.24
Gross profit margin (%)	19.4	19.5	19.7	19.8	19.8
Operating profit (EBITDA) margin (%)	13.7	14.0	14.1	14.3	14.4
Net profit margin (%)	5.4	6.5	7.4	8.3	9.0
Return on capital employed (%)	25.1	27.6	28.9	29.3	28.9
Break-even (% of installed capacity)	39.2	37.9	36.5	35.1	33.7

20 Key assumptions

- Commercial production starts in April 2027, and all assets are in use from the first year.
- Capacity utilisation of 60% in Year 1, rising to 80% by Year 5, over 300 working days a year.
- Selling price of ₹30,200 per MT, excluding GST, held constant through the projection.
- Raw materials at 70% of sales, packing materials at 3.1%, power and fuel at 2.6%, and selling and distribution at 3.5%.
- Wages and salaries rise by 5% a year; repairs and administrative overheads rise by 5% a year.
- Working capital based on 30 days of raw material, 1 day of work in progress, 10 days of finished goods and 20 days of receivables, less 10 days of creditors.
- Term loan at 10.5% interest with a 6-month moratorium and 54 monthly instalments; cash credit at 11% on 75% of the working capital requirement.
- Depreciation on the written-down value method at Income Tax Act rates; income tax at a flat 25% of profit for simplicity.
- Contingency of 5% on building and machinery; preliminary and pre-operative expenses written off over five years.
- All amounts in ₹ lakh unless stated otherwise, excluding GST.

21 Conclusion

The model shows that a maize starch unit sized at 20 MT per day can be financed 75:25 by a bank and its promoter, service its loan with an average DSCR of 2.15, and return about 28.7% a year on a project cost of ₹328.80 lakh. These are sample figures. A real project needs a report built on its own site, quotations and market.

Need this report for your own plant?

NPCS prepares detailed project reports and bank-format DPRs for your capacity, location and loan scheme, with machinery quotations, supplier lists and a market survey for your area.

Call or WhatsApp
+91 90970 75054

Email
npcs.india@gmail.com

Website
www.niir.org

This document is a computer-generated illustrative sample. The capacity, prices, costs and projections are representative assumptions for a typical small-scale unit and are not based on any specific project, location or quotation. Statutory requirements change and vary by state. Niir Project Consultancy Services accepts no liability for decisions taken on the basis of this sample.

A Annexure: monthly loan repayment schedule

Term loan of ₹246.60 lakh at 10.5% a year. Amounts in ₹ lakh.

No.	Month	Opening balance	Interest	Principal	Instalment	Closing balance
1	Apr 2027	246.60	2.16	–	2.16	246.60
2	May 2027	246.60	2.16	–	2.16	246.60
3	Jun 2027	246.60	2.16	–	2.16	246.60
4	Jul 2027	246.60	2.16	–	2.16	246.60
5	Aug 2027	246.60	2.16	–	2.16	246.60
6	Sep 2027	246.60	2.16	–	2.16	246.60
7	Oct 2027	246.60	2.16	3.59	5.75	243.01
8	Nov 2027	243.01	2.13	3.62	5.75	239.38
9	Dec 2027	239.38	2.09	3.66	5.75	235.73
10	Jan 2028	235.73	2.06	3.69	5.75	232.04
11	Feb 2028	232.04	2.03	3.72	5.75	228.32
12	Mar 2028	228.32	2.00	3.75	5.75	224.57
13	Apr 2028	224.57	1.97	3.78	5.75	220.79
14	May 2028	220.79	1.93	3.82	5.75	216.97
15	Jun 2028	216.97	1.90	3.85	5.75	213.12
16	Jul 2028	213.12	1.86	3.88	5.75	209.23
17	Aug 2028	209.23	1.83	3.92	5.75	205.31
18	Sep 2028	205.31	1.80	3.95	5.75	201.36
19	Oct 2028	201.36	1.76	3.99	5.75	197.37
20	Nov 2028	197.37	1.73	4.02	5.75	193.35
21	Dec 2028	193.35	1.69	4.06	5.75	189.29
22	Jan 2029	189.29	1.66	4.09	5.75	185.20
23	Feb 2029	185.20	1.62	4.13	5.75	181.07
24	Mar 2029	181.07	1.58	4.17	5.75	176.90
25	Apr 2029	176.90	1.55	4.20	5.75	172.70
26	May 2029	172.70	1.51	4.24	5.75	168.46
27	Jun 2029	168.46	1.47	4.28	5.75	164.19
28	Jul 2029	164.19	1.44	4.31	5.75	159.87
29	Aug 2029	159.87	1.40	4.35	5.75	155.52
30	Sep 2029	155.52	1.36	4.39	5.75	151.13
31	Oct 2029	151.13	1.32	4.43	5.75	146.71
32	Nov 2029	146.71	1.28	4.47	5.75	142.24
33	Dec 2029	142.24	1.24	4.51	5.75	137.73
34	Jan 2030	137.73	1.21	4.54	5.75	133.19
35	Feb 2030	133.19	1.17	4.58	5.75	128.61
36	Mar 2030	128.61	1.13	4.62	5.75	123.98
37	Apr 2030	123.98	1.08	4.66	5.75	119.32
38	May 2030	119.32	1.04	4.71	5.75	114.61
39	Jun 2030	114.61	1.00	4.75	5.75	109.86

No.	Month	Opening balance	Interest	Principal	Instalment	Closing balance
40	Jul 2030	109.86	0.96	4.79	5.75	105.08
41	Aug 2030	105.08	0.92	4.83	5.75	100.25
42	Sep 2030	100.25	0.88	4.87	5.75	95.37
43	Oct 2030	95.37	0.83	4.92	5.75	90.46
44	Nov 2030	90.46	0.79	4.96	5.75	85.50
45	Dec 2030	85.50	0.75	5.00	5.75	80.50
46	Jan 2031	80.50	0.70	5.05	5.75	75.45
47	Feb 2031	75.45	0.66	5.09	5.75	70.36
48	Mar 2031	70.36	0.62	5.13	5.75	65.23
49	Apr 2031	65.23	0.57	5.18	5.75	60.05
50	May 2031	60.05	0.53	5.22	5.75	54.82
51	Jun 2031	54.82	0.48	5.27	5.75	49.55
52	Jul 2031	49.55	0.43	5.32	5.75	44.24
53	Aug 2031	44.24	0.39	5.36	5.75	38.88
54	Sep 2031	38.88	0.34	5.41	5.75	33.47
55	Oct 2031	33.47	0.29	5.46	5.75	28.01
56	Nov 2031	28.01	0.25	5.50	5.75	22.50
57	Dec 2031	22.50	0.20	5.55	5.75	16.95
58	Jan 2032	16.95	0.15	5.60	5.75	11.35
59	Feb 2032	11.35	0.10	5.65	5.75	5.70
60	Mar 2032	5.70	0.05	5.70	5.75	–