



AN ISO 9001 : 2015 CERTIFIED COMPANY

Detailed project report

Sample edition

Projections from FY 2027-28

Project report

Potato Flakes and Powder

Installed capacity 1,700 kg per day

Sector Fruit and vegetable processing

Total project cost ₹194.27 lakh

Illustrative sample
Figures are representative

Potato Flakes and Powder
1,700 kg per day

Project at a glance

Product	Potato Flakes and Powder	Sector	Fruit and vegetable processing
Installed capacity	1,700 kg per day	Annual capacity	4,59,000 kg per year
Selling price (ex-GST)	₹132 per kg	Working days	270 a year
Manpower	22 people	Plant and machinery	₹90.70 lakh
Total project cost	₹194.27 lakh	Promoter's contribution	₹48.57 lakh (25%)
Term loan	₹145.70 lakh (75%)	Cash credit limit	₹35.42 lakh
Revenue, Year 3	₹424.12 lakh at 70%	Net profit, Year 3	₹43.63 lakh
Return on investment	22.4% a year	Break-even, Year 3	42.9% of capacity
Average DSCR	1.85	Payback period	3.5 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.

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1 Introduction

This sample report sets out the techno-economic case for a unit making potato flakes and powder. The model plant has an installed capacity of 1,700 kg per day, which works out to 4,59,000 kg per year over 270 working days. Its applications range from extruded snacks, bhujia and namkeen to export markets.

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 ₹424.12 lakh and a net profit of ₹43.63 lakh.

2 Uses and applications

The product is bought for these main uses:

- Extruded snacks, bhujia and namkeen
- Instant mashed potato and ready mixes
- Soups, gravies and seasonings
- Bakery and frozen potato snacks
- Export markets

3 Market potential

Demand for potato powder comes from snack and namkeen makers who use it in extruded snacks, bhujia and fried pellets, and from makers of instant mash, ready mixes, soups and gravies. Hotels, caterers and quick service kitchens buy it because it stores for months and saves peeling and boiling. A new unit competes on steady colour and taste, low moisture, consistent mesh size and a reliable year-round supply backed by stored processing-grade potatoes.

Typical buyers include snack and namkeen manufacturers; instant food and ready mix makers; soup, gravy and seasoning blenders; bakery and frozen food processors; hotels, caterers and quick service restaurants; and exporters and food ingredient traders.

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 potato flakes and powder follows five main steps, from peeling to milling and packing. The flow chart shows how material moves through the plant.



Process flow for potato flakes and powder

- 1 Peeling.** Potatoes are washed and peeled.
- 2 Cooking.** Slices are blanched and steam cooked.
- 3 Mashing.** Cooked potatoes are mashed.
- 4 Drum drying.** Mash is dried into thin flakes.
- 5 Milling and packing.** Flakes are milled to powder where needed and packed.

5 Raw materials

The plant uses potatoes, additives and packing material. Raw material purchases in Year 3 are estimated at ₹182.62 lakh, which is 43.1% of sales. The split by material is shown below.

Raw material	Share of cost	Year 3 cost (₹ lakh)
Potatoes	88.0%	160.71
Additives	4.0%	7.30
Packing material	8.0%	14.61
Total raw materials	100.0%	182.62

6 Plant and machinery

Plant and machinery accounts for ₹90.70 lakh of the project cost. The drum dryer takes the largest share, and the other items and their indicative costs are listed below.

Machinery and equipment	Indicative cost (₹ lakh)
Washer and peeler	13.61
Slicer and blancher	13.61
Steam cooker	13.60
Drum dryer	31.74
Mill and sifter	9.07
Packing machine	9.07
Total plant and machinery	90.70

7 Land, building and utilities

Land and site development is taken at ₹12.21 lakh and building and civil works at ₹54.60 lakh. Other fixed assets, including electrification, furniture, testing equipment and power backup, add ₹13.25 lakh. Land rates vary widely by location, so these are the figures most likely to change in a real project.

Power and fuel cost ₹20.01 lakh in Year 3, about 4.7% of sales. Water is needed for cleaning, domestic use and, where the process calls for it, production.

8 Manpower

The unit employs 22 people. Wages and salaries come to ₹40.56 lakh in Year 1 and are assumed to rise by 5% a year.

Category	Number	Monthly wage (₹)	Annual cost (₹ lakh)
Management, supervision and administration	3	27,000	9.72
Skilled workers and operators	8	17,000	16.32
Semi-skilled and unskilled workers	11	11,000	14.52
Total (Year 1)	22		40.56

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 State licence for 100 kg to 2 MT per day, Central licence above 2 MT per day
- Orange category under CPCB criteria for fruit and vegetable processing, which sets the pollution consent conditions

10 Project cost and means of finance

Project cost is estimated at ₹194.27 lakh, including fixed assets of ₹178.02 lakh and margin money for working capital of ₹11.80 lakh.

Cost of project	₹ lakh
Land and site development	12.21
Building and civil works	54.60
Plant and machinery	90.70
Other fixed assets (electrification, furniture, lab equipment, DG set)	13.25
Contingencies	7.26
Preliminary and pre-operative expenses	4.45
Margin money for working capital	11.80
Total cost of project	194.27

Means of finance

Funding follows a 75:25 split between bank loan and promoter's contribution, with a term loan of ₹145.70 lakh and promoter funds of ₹48.57 lakh. The bank also provides a cash credit limit of ₹35.42 lakh for working capital.

Source of funds	₹ lakh
Promoter's contribution (25%)	48.57
Term loan from bank (75%)	145.70
Total means of finance	194.27
<i>Cash credit limit for working capital (separate)</i>	<i>35.42</i>

11 Working capital

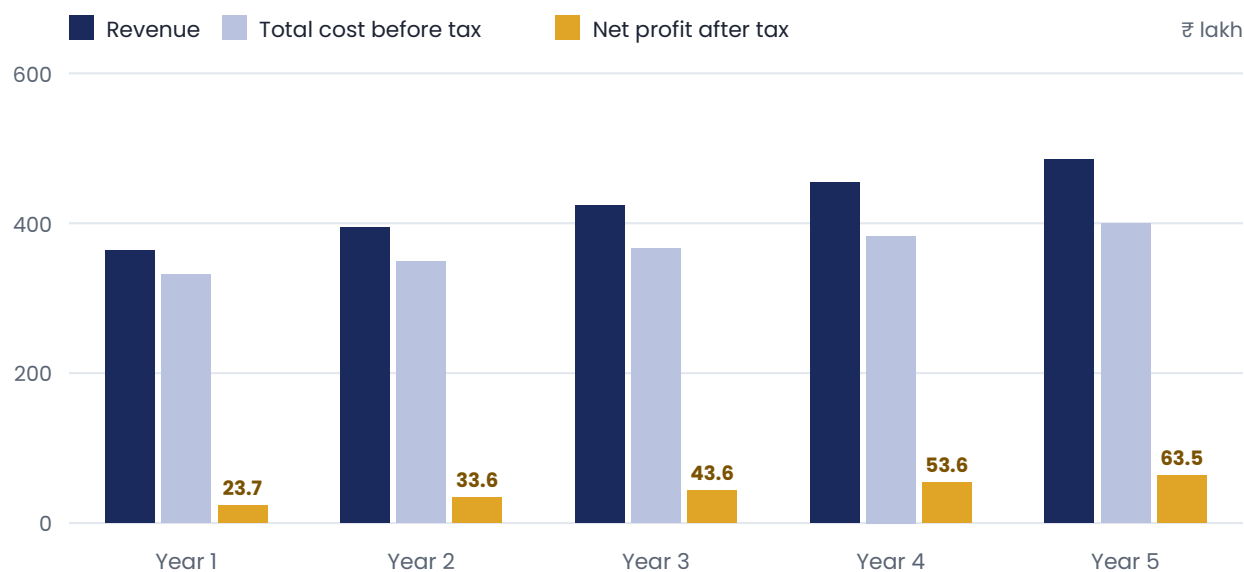
The unit needs ₹47.22 lakh of working capital in Year 1, based on 30 days of raw material stock, 20 days of finished goods and 30 days of customer credit, net of 20 days of supplier credit. Of this, ₹35.42 lakh comes from the bank and ₹11.80 lakh from the promoter.

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)	12.87	13.94	15.01	16.08	17.15
Work in progress (2 days)	1.17	1.26	1.36	1.45	1.54
Finished goods (20 days)	14.31	15.42	16.54	17.67	18.80
Trade receivables (30 days)	29.88	32.37	34.86	37.35	39.84
Total current assets	58.23	62.99	67.77	72.55	77.33
Less: trade creditors (20 days)	11.01	11.93	12.85	13.77	14.69
Working capital requirement	47.22	51.06	54.92	58.78	62.64

12 Projected profitability

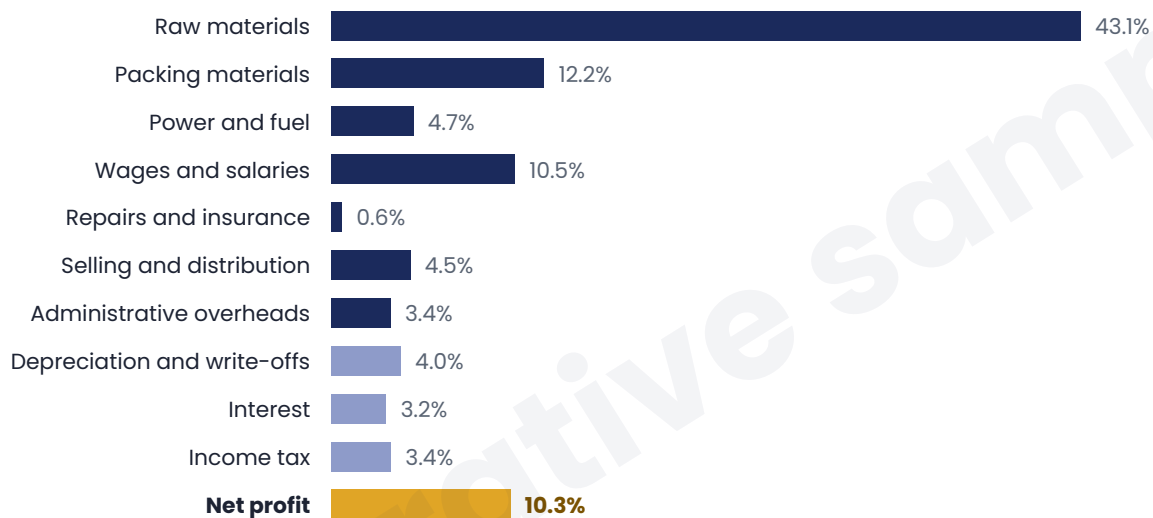
Revenue grows from ₹363.53 lakh in Year 1, at 60% utilisation, to ₹484.70 lakh in Year 5 at 80%. Net profit rises from ₹23.68 lakh to ₹63.46 lakh over the same period, an average net margin of 10%.

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	363.53	393.82	424.12	454.41	484.70
Raw materials consumed	156.53	169.57	182.62	195.66	208.71
Packing materials	44.49	48.20	51.91	55.62	59.32
Power and fuel	17.15	18.58	20.01	21.43	22.86
Wages and salaries	40.56	42.59	44.72	46.95	49.30
Repairs and maintenance	1.81	1.90	2.00	2.10	2.20
Insurance	0.66	0.66	0.66	0.66	0.66
Cost of production	261.20	281.50	301.92	322.42	343.05
Gross profit	102.33	112.32	122.20	131.99	141.65
Selling and distribution expenses	16.52	17.90	19.27	20.65	22.02
Administrative overheads	13.09	13.75	14.44	15.16	15.91
Operating profit (EBITDA)	72.72	80.67	88.49	96.18	103.72
Depreciation	21.33	18.49	16.03	13.92	12.09
Preliminary expenses written off	0.89	0.89	0.89	0.89	0.89
Interest on term loan	15.02	12.60	9.50	6.05	2.23
Interest on cash credit	3.90	3.90	3.90	3.90	3.90
Profit before tax	31.58	44.79	58.17	71.42	84.61
Income tax	7.90	11.20	14.54	17.86	21.15
Profit after tax	23.68	33.59	43.63	53.56	63.46



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

The cash flow statement sets out the sources and uses of funds year by year. The unit stays cash positive throughout and closes Year 5 with a cash balance of ₹143.11 lakh after meeting the loan repayments due.

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	48.57	–	–	–	–
Term loan from bank	145.70	–	–	–	–
Cash credit (working capital) from bank	35.42	–	–	–	–
Net profit after tax	23.68	33.59	43.63	53.56	63.46
Depreciation	21.33	18.49	16.03	13.92	12.09
Preliminary expenses written off	0.89	0.89	0.89	0.89	0.89
Increase in trade creditors	11.01	0.92	0.92	0.92	0.92
Total sources	286.60	53.89	61.47	69.29	77.36
Application of funds					
Fixed assets	178.02	–	–	–	–
Preliminary and pre-operative expenses	4.45	–	–	–	–
Increase in inventories	28.35	2.27	2.29	2.29	2.29
Increase in trade receivables	29.88	2.49	2.49	2.49	2.49
Repayment of term loan	13.02	28.16	31.27	34.71	38.54
Drawings	–	–	–	–	–
Total application	253.72	32.92	36.05	39.49	43.32
Net cash flow	32.88	20.97	25.42	29.80	34.04
Opening cash balance	–	32.88	53.85	79.27	109.07
Closing cash balance	32.88	53.85	79.27	109.07	143.11

14 Projected balance sheet

The projected balance sheet balances in every year. Net worth grows from ₹68.69 lakh at the end of Year 1 to ₹266.49 lakh at the end of Year 5, while the term loan outstanding falls from ₹132.68 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	48.57	48.57	48.57	48.57	48.57
Reserves and surplus	23.68	57.27	100.90	154.46	217.92
Term loan	132.68	104.52	73.25	38.54	–
Cash credit from bank	35.42	35.42	35.42	35.42	35.42
Trade creditors	11.01	11.93	12.85	13.77	14.69
Total liabilities	251.36	257.71	270.99	290.76	316.60
Assets					
Gross fixed assets	178.02	178.02	178.02	178.02	178.02
Less: accumulated depreciation	(21.33)	(39.82)	(55.85)	(69.77)	(81.86)
Net fixed assets	156.69	138.20	122.17	108.25	96.16
Preliminary expenses not written off	3.56	2.67	1.78	0.89	–
Inventories	28.35	30.62	32.91	35.20	37.49
Trade receivables	29.88	32.37	34.86	37.35	39.84
Cash and bank balance	32.88	53.85	79.27	109.07	143.11
Total assets	251.36	257.71	270.99	290.76	316.60

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 ₹57.33 lakh, 10% WDV)					
Opening written-down value	57.33	51.60	46.44	41.80	37.62
Depreciation	5.73	5.16	4.64	4.18	3.76
Closing written-down value	51.60	46.44	41.80	37.62	33.86
Plant and machinery (cost ₹95.23 lakh, 15% WDV)					
Opening written-down value	95.23	80.95	68.81	58.49	49.72
Depreciation	14.28	12.14	10.32	8.77	7.46
Closing written-down value	80.95	68.81	58.49	49.72	42.26
Other fixed assets (cost ₹13.25 lakh, 10% WDV)					
Opening written-down value	13.25	11.93	10.74	9.67	8.70
Depreciation	1.32	1.19	1.07	0.97	0.87
Closing written-down value	11.93	10.74	9.67	8.70	7.83
Total depreciation	21.33	18.49	16.03	13.92	12.09
Preliminary expenses written off	0.89	0.89	0.89	0.89	0.89

16 Term loan repayment

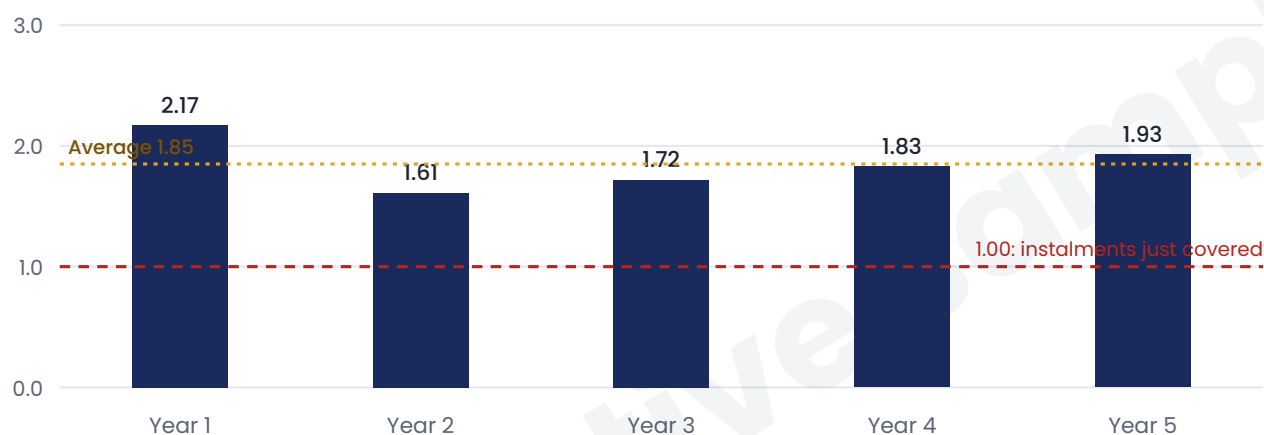
Repayment of the ₹145.70 lakh term loan starts after a moratorium of 6 months, during which interest at 10.5% is serviced. The loan is then cleared in 54 EMIs of ₹3,39,717 each, and the annexure gives the monthly schedule.

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	145.70	132.68	104.52	73.25	38.54
Interest	15.02	12.60	9.50	6.05	2.23
Principal repaid	13.02	28.16	31.27	34.71	38.54
Closing balance	132.68	104.52	73.25	38.54	—

17 Debt service coverage

Cash available for debt service covers the term loan instalments 1.85 times on average, and never less than 1.61 times (Year 2).

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	23.68	33.59	43.63	53.56	63.46
Depreciation and write-offs	22.22	19.38	16.92	14.81	12.98
Interest on term loan	15.02	12.60	9.50	6.05	2.23
Total available for debt service (A)	60.92	65.57	70.05	74.42	78.67
Principal repayment	13.02	28.16	31.27	34.71	38.54
Interest on term loan	15.02	12.60	9.50	6.05	2.23
Total debt service (B)	28.04	40.76	40.77	40.76	40.77
DSCR (A / B)	2.17	1.61	1.72	1.83	1.93

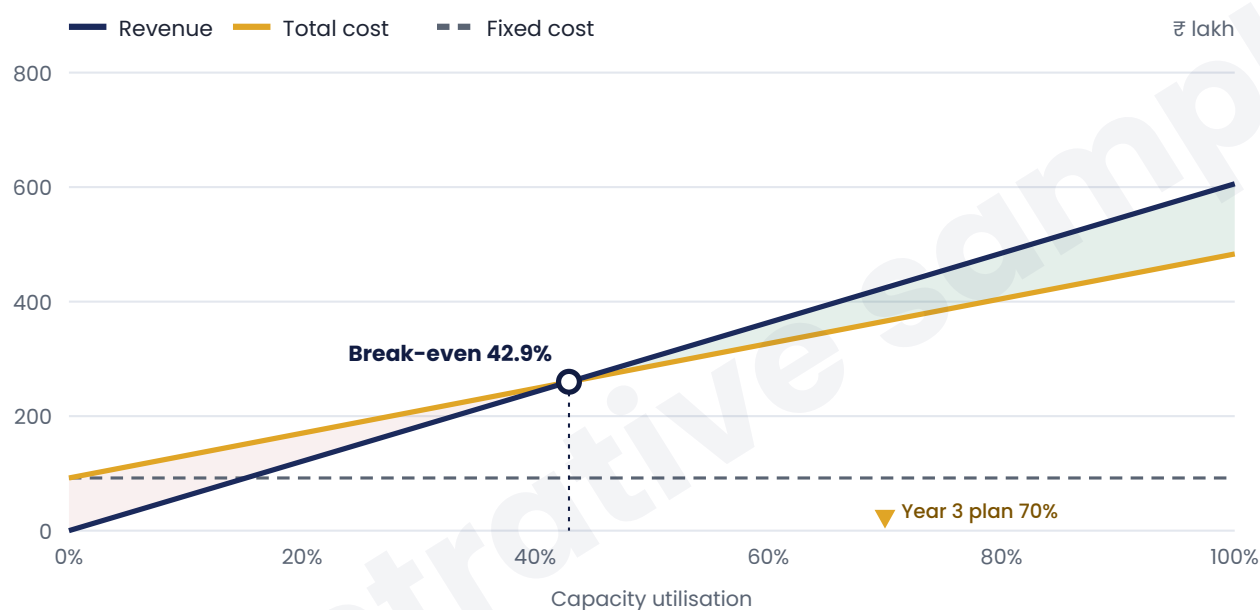


DSCR by year. A ratio above 1.00 means cash accruals cover the term loan instalments.

18 Break-even analysis

The unit needs to run at 42.9% of capacity to break even in Year 3, well below the 70% assumed for that year. Cash break-even, which excludes depreciation and write-offs, is 35%.

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	363.53	393.82	424.12	454.41	484.70
Variable costs	234.69	254.25	273.81	293.36	312.91
Contribution	128.84	139.57	150.31	161.05	171.79
Fixed costs (incl. depreciation and interest)	97.26	94.78	92.14	89.63	87.18
Break-even as % of installed capacity	45.3	44.1	42.9	41.7	40.6
Cash break-even as % of installed capacity	34.9	35.1	35.0	34.8	34.6
Break-even sales	274.43	267.44	259.99	252.90	245.98



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

Liquidity and leverage improve over the projection. The current ratio stays at or above 1.96, while debt-equity drops from 1.93 to zero as the term loan is repaid.

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	1.96	2.47	3.05	3.69	4.40
Quick ratio	1.35	1.82	2.36	2.98	3.65
Debt-equity ratio (term loan / net worth)	1.93	1.01	0.50	0.19	0.00
Total outside liabilities / net worth	2.61	1.47	0.82	0.43	0.19
Interest coverage ratio	2.67	3.71	5.34	8.18	14.80
DSCR	2.17	1.61	1.72	1.83	1.93
Gross profit margin (%)	28.1	28.5	28.8	29.0	29.2
Operating profit (EBITDA) margin (%)	20.0	20.5	20.9	21.2	21.4
Net profit margin (%)	6.5	8.5	10.3	11.8	13.1
Return on capital employed (%)	21.3	25.2	27.9	29.5	30.1
Break-even (% of installed capacity)	45.3	44.1	42.9	41.7	40.6

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 270 working days a year.
- Selling price of ₹132 per kg, excluding GST, held constant through the projection.
- Raw materials at 43.1% of sales, packing materials at 12.2%, power and fuel at 4.7%, and selling and distribution at 4.5%.
- 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, 2 days of work in progress, 20 days of finished goods and 30 days of receivables, less 20 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 potato flakes and powder unit sized at 1,700 kg per day can be financed 75:25 by a bank and its promoter, service its loan with an average DSCR of 1.85, and return about 22.4% a year on a project cost of ₹194.27 lakh. These are sample figures. A real project needs a report built on its own site, quotations and market.

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A Annexure: monthly loan repayment schedule

Term loan of ₹145.70 lakh at 10.5% a year. Amounts in ₹ lakh.

No.	Month	Opening balance	Interest	Principal	Instalment	Closing balance
1	Apr 2027	145.70	1.27	–	1.27	145.70
2	May 2027	145.70	1.27	–	1.27	145.70
3	Jun 2027	145.70	1.27	–	1.27	145.70
4	Jul 2027	145.70	1.27	–	1.27	145.70
5	Aug 2027	145.70	1.27	–	1.27	145.70
6	Sep 2027	145.70	1.27	–	1.27	145.70
7	Oct 2027	145.70	1.27	2.12	3.40	143.58
8	Nov 2027	143.58	1.26	2.14	3.40	141.44
9	Dec 2027	141.44	1.24	2.16	3.40	139.28
10	Jan 2028	139.28	1.22	2.18	3.40	137.10
11	Feb 2028	137.10	1.20	2.20	3.40	134.90
12	Mar 2028	134.90	1.18	2.22	3.40	132.68
13	Apr 2028	132.68	1.16	2.24	3.40	130.45
14	May 2028	130.45	1.14	2.26	3.40	128.19
15	Jun 2028	128.19	1.12	2.28	3.40	125.92
16	Jul 2028	125.92	1.10	2.30	3.40	123.62
17	Aug 2028	123.62	1.08	2.32	3.40	121.31
18	Sep 2028	121.31	1.06	2.34	3.40	118.97
19	Oct 2028	118.97	1.04	2.36	3.40	116.61
20	Nov 2028	116.61	1.02	2.38	3.40	114.24
21	Dec 2028	114.24	1.00	2.40	3.40	111.84
22	Jan 2029	111.84	0.98	2.42	3.40	109.42
23	Feb 2029	109.42	0.96	2.44	3.40	106.98
24	Mar 2029	106.98	0.94	2.46	3.40	104.52
25	Apr 2029	104.52	0.91	2.48	3.40	102.04
26	May 2029	102.04	0.89	2.50	3.40	99.53
27	Jun 2029	99.53	0.87	2.53	3.40	97.01
28	Jul 2029	97.01	0.85	2.55	3.40	94.46
29	Aug 2029	94.46	0.83	2.57	3.40	91.89
30	Sep 2029	91.89	0.80	2.59	3.40	89.30
31	Oct 2029	89.30	0.78	2.62	3.40	86.68
32	Nov 2029	86.68	0.76	2.64	3.40	84.04
33	Dec 2029	84.04	0.74	2.66	3.40	81.38
34	Jan 2030	81.38	0.71	2.69	3.40	78.69
35	Feb 2030	78.69	0.69	2.71	3.40	75.98
36	Mar 2030	75.98	0.66	2.73	3.40	73.25
37	Apr 2030	73.25	0.64	2.76	3.40	70.50
38	May 2030	70.50	0.62	2.78	3.40	67.72
39	Jun 2030	67.72	0.59	2.80	3.40	64.91

No.	Month	Opening balance	Interest	Principal	Instalment	Closing balance
40	Jul 2030	64.91	0.57	2.83	3.40	62.08
41	Aug 2030	62.08	0.54	2.85	3.40	59.23
42	Sep 2030	59.23	0.52	2.88	3.40	56.35
43	Oct 2030	56.35	0.49	2.90	3.40	53.45
44	Nov 2030	53.45	0.47	2.93	3.40	50.52
45	Dec 2030	50.52	0.44	2.96	3.40	47.56
46	Jan 2031	47.56	0.42	2.98	3.40	44.58
47	Feb 2031	44.58	0.39	3.01	3.40	41.57
48	Mar 2031	41.57	0.36	3.03	3.40	38.54
49	Apr 2031	38.54	0.34	3.06	3.40	35.48
50	May 2031	35.48	0.31	3.09	3.40	32.39
51	Jun 2031	32.39	0.28	3.11	3.40	29.28
52	Jul 2031	29.28	0.26	3.14	3.40	26.14
53	Aug 2031	26.14	0.23	3.17	3.40	22.97
54	Sep 2031	22.97	0.20	3.20	3.40	19.77
55	Oct 2031	19.77	0.17	3.22	3.40	16.55
56	Nov 2031	16.55	0.14	3.25	3.40	13.30
57	Dec 2031	13.30	0.12	3.28	3.40	10.02
58	Jan 2032	10.02	0.09	3.31	3.40	6.71
59	Feb 2032	6.71	0.06	3.34	3.40	3.37
60	Mar 2032	3.37	0.03	3.37	3.40	–