



AN ISO 9001 : 2015 CERTIFIED COMPANY

Detailed project report

Sample edition

Projections from FY 2027-28

Project report

Dehydrated Onion Flakes

Installed capacity 2,100 kg per day

Sector Fruit and vegetable processing

Total project cost ₹255.21 lakh

Illustrative sample
Figures are representative

Project at a glance

Dehydrated Onion Flakes
2,100 kg per day

Product	Dehydrated Onion Flakes	Sector	Fruit and vegetable processing
Installed capacity	2,100 kg per day	Annual capacity	5,67,000 kg per year
Selling price (ex-GST)	₹149 per kg	Working days	270 a year
Manpower	28 people	Plant and machinery	₹121.93 lakh
Total project cost	₹255.21 lakh	Promoter's contribution	₹63.80 lakh (25%)
Term loan	₹191.41 lakh (75%)	Cash credit limit	₹49.46 lakh
Revenue, Year 3	₹591.38 lakh at 70%	Net profit, Year 3	₹59.56 lakh
Return on investment	23.3% a year	Break-even, Year 3	42.0% of capacity
Average DSCR	1.90	Payback period	3.4 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 dehydrated onion flakes. The model plant has an installed capacity of 2,100 kg per day, which works out to 5,67,000 kg per year over 270 working days. Its applications range from food processors to export.

Each section follows the layout of a bank-format project report: project cost, means of finance, working capital, profitability, cash flow, balance sheet, debt service and break-even. In Year 3, running at 70% of capacity, the model unit sells ₹591.38 lakh worth of dehydrated onion flakes and keeps ₹59.56 lakh as net profit.

2 Uses and applications

The main applications and markets for the product are:

- Food processors
- Seasoning makers
- Hotels and caterers
- Export

3 Market potential

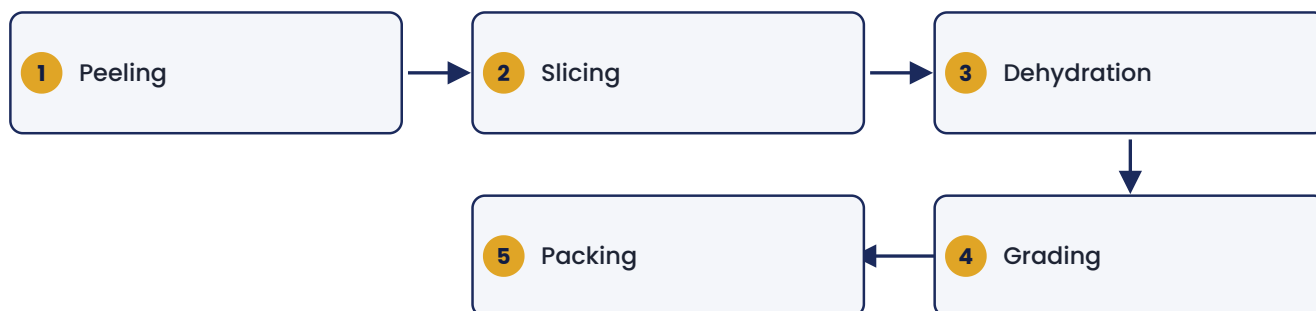
Demand for dehydrated onion comes from seasoning and spice blend makers, instant noodle, soup and snack manufacturers, ready meal and sauce makers, and export buyers in Europe, North America and West Asia who need onion flavour all year without the storage losses of fresh bulbs. White onion varieties with high dry matter give better colour and yield, so units buy directly from growers during the harvest season and build stock for the rest of the year. Most Indian capacity is clustered around Mahuva in Gujarat, and new units compete on consistent colour, low microbial counts and reliable shipment schedules.

The usual customers for a unit of this kind are seasoning and spice blend manufacturers; instant noodle, soup and snack makers; ready meal and sauce manufacturers; food service and catering suppliers; and importers and food ingredient traders abroad.

For a real project, the market survey is redone for the chosen location, covering present demand, expected growth and the existing manufacturers nearby.

4 Manufacturing process

Production of dehydrated onion flakes follows five main steps, from peeling to packing. The flow chart shows how material moves through the plant.



Process flow for dehydrated onion flakes

- 1 Peeling.** Onions are peeled and trimmed.
- 2 Slicing.** Onions are washed and cut into flakes.
- 3 Dehydration.** Flakes are dried in a multi stage belt dryer.
- 4 Grading.** Dry flakes are sorted by size and colour.
- 5 Packing.** Flakes are packed in lined cartons.

5 Raw materials

Raw materials account for 44.1% of sales at Year 3 volumes, a total of ₹260.77 lakh, with fresh onions the biggest item in the mix.

Raw material	Share of cost	Year 3 cost (₹ lakh)
Fresh onions	90.0%	234.69
Consumables	10.0%	26.08
Total raw materials	100.0%	260.77

6 Plant and machinery

The machinery list below covers the main production equipment, costed at ₹121.93 lakh in total. Prices are indicative. A full report gives specifications and supplier names, and a bank-format DPR uses the quotations you obtain.

Machinery and equipment	Indicative cost (₹ lakh)
Onion peeler	17.07
Washer and slicer	17.07
Multi stage belt dryer	51.21
Grader and sorter	14.63
Packing machine	21.95
Total plant and machinery	121.93

7 Land, building and utilities

Land and site development is taken at ₹16.64 lakh and building and civil works at ₹69.34 lakh. Other fixed assets, including electrification, furniture, testing equipment and power backup, add ₹15.44 lakh. Land rates vary widely by location, so these are the figures most likely to change in a real project.

Utilities in Year 3 cost ₹26.85 lakh for power and fuel, or 4.5% of sales. The plant also needs a reliable water supply for cleaning and domestic use, and for the process where required.

8 Manpower

A team of 28 runs the plant, from management and supervision to skilled operators and helpers. The Year 1 wage bill is ₹51.84 lakh, rising 5% a year.

Category	Number	Monthly wage (₹)	Annual cost (₹ lakh)
Management, supervision and administration	4	27,000	12.96
Skilled workers and operators	10	17,000	20.40
Semi-skilled and unskilled workers	14	11,000	18.48
Total (Year 1)	28		51.84

9 Licences and approvals

A unit of this kind typically needs the following registrations and approvals. Requirements vary by state and by the exact product, so confirm them with the local authorities before applying.

- 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 (central licence for 100% export oriented units and larger capacities)
- IS 4452 Dehydrated onion specification of BIS as the quality reference
- APEDA registration (RCMC) and IEC for exports
- Legal Metrology registration for retail packs

10 Project cost and means of finance

The total cost of the project is ₹255.21 lakh. Fixed assets account for ₹232.91 lakh, and the balance covers preliminary and pre-operative expenses and the promoter's margin money for working capital. A contingency of 5% is provided on building and machinery.

Cost of project	₹ lakh
Land and site development	16.64
Building and civil works	69.34
Plant and machinery	121.93
Other fixed assets (electrification, furniture, lab equipment, DG set)	15.44
Contingencies	9.56
Preliminary and pre-operative expenses	5.82
Margin money for working capital	16.48
Total cost of project	255.21

Means of finance

The promoter contributes ₹63.80 lakh (25% of project cost) and a term loan funds the remaining ₹191.41 lakh. Working capital is supported by a cash credit limit of ₹49.46 lakh.

Source of funds	₹ lakh
Promoter's contribution (25%)	63.80
Term loan from bank (75%)	191.41
Total means of finance	255.21
<i>Cash credit limit for working capital (separate)</i>	<i>49.46</i>

11 Working capital

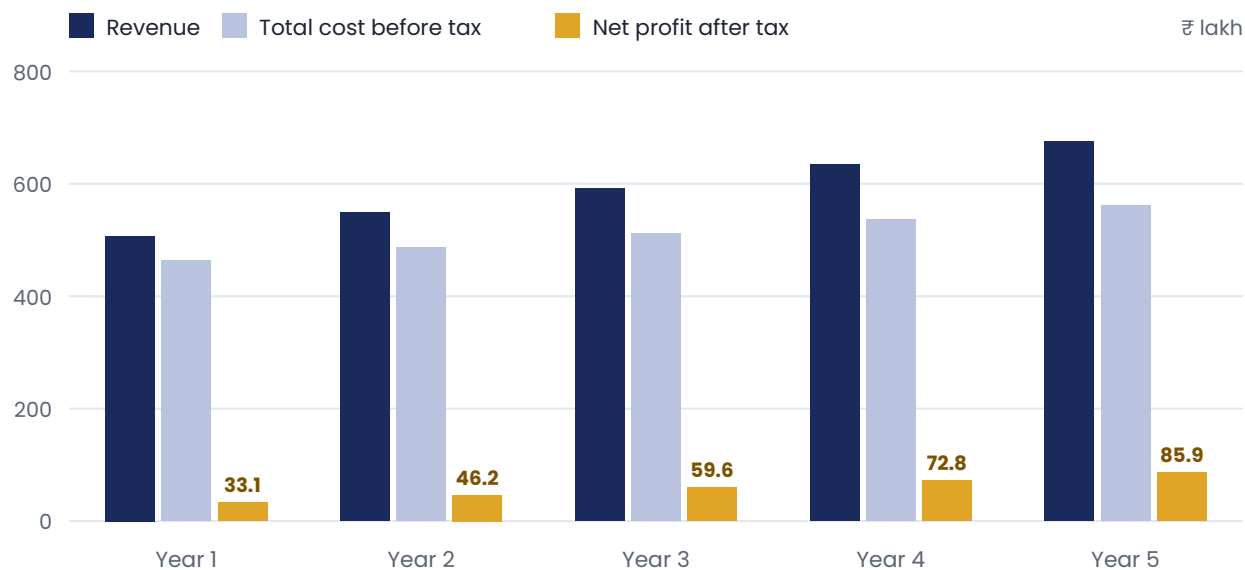
Working capital is worked out from holding periods: 30 days of raw material, 20 days of finished goods and 30 days of credit to customers, less 20 days of credit from suppliers. In Year 1 the requirement is ₹65.94 lakh. The bank funds ₹49.46 lakh through cash credit and the promoter's margin covers ₹16.48 lakh.

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)	18.37	19.90	21.43	22.96	24.50
Work in progress (2 days)	1.63	1.76	1.89	2.02	2.15
Finished goods (20 days)	19.95	21.51	23.08	24.65	26.24
Trade receivables (30 days)	41.66	45.13	48.61	52.08	55.55
Total current assets	81.61	88.30	95.01	101.71	108.44
Less: trade creditors (20 days)	15.67	16.97	18.28	19.59	20.89
Working capital requirement	65.94	71.33	76.73	82.12	87.55

12 Projected profitability

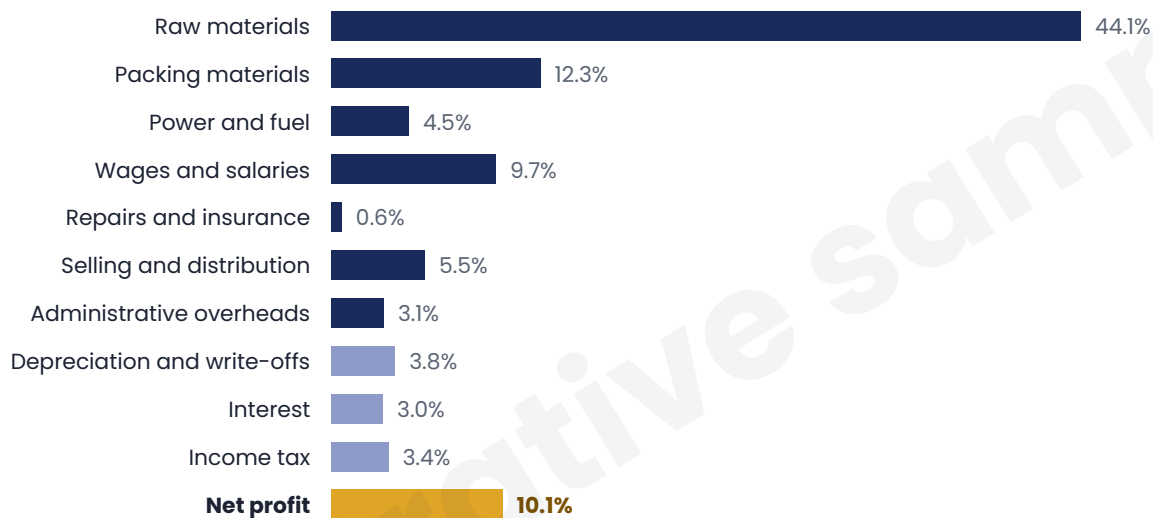
As utilisation climbs from 60% to 80%, sales increase from ₹506.90 lakh to ₹675.86 lakh. Operating profit in Year 3 is ₹119.53 lakh, a margin of 20.2%, and net profit after tax grows from ₹33.06 lakh in Year 1 to ₹85.88 lakh in Year 5.

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	506.90	549.14	591.38	633.62	675.86
Raw materials consumed	223.52	242.15	260.77	279.40	298.03
Packing materials	62.42	67.63	72.83	78.03	83.23
Power and fuel	23.02	24.94	26.85	28.77	30.69
Wages and salaries	51.84	54.43	57.15	60.01	63.01
Repairs and maintenance	2.44	2.56	2.69	2.82	2.96
Insurance	0.87	0.87	0.87	0.87	0.87
Cost of production	364.11	392.58	421.16	449.90	478.79
Gross profit	142.79	156.56	170.22	183.72	197.07
Selling and distribution expenses	27.87	30.19	32.51	34.84	37.16
Administrative overheads	16.49	17.32	18.18	19.09	20.05
Operating profit (EBITDA)	98.43	109.05	119.53	129.79	139.86
Depreciation	28.02	24.26	21.03	18.23	15.81
Preliminary expenses written off	1.16	1.16	1.16	1.16	1.18
Interest on term loan	19.73	16.56	12.48	7.95	2.93
Interest on cash credit	5.44	5.44	5.44	5.44	5.44
Profit before tax	44.08	61.63	79.42	97.01	114.50
Income tax	11.02	15.41	19.86	24.25	28.62
Profit after tax	33.06	46.22	59.56	72.76	85.88



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 ₹197.63 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	63.80	–	–	–	–
Term loan from bank	191.41	–	–	–	–
Cash credit (working capital) from bank	49.46	–	–	–	–
Net profit after tax	33.06	46.22	59.56	72.76	85.88
Depreciation	28.02	24.26	21.03	18.23	15.81
Preliminary expenses written off	1.16	1.16	1.16	1.16	1.18
Increase in trade creditors	15.67	1.30	1.31	1.31	1.30
Total sources	382.58	72.94	83.06	93.46	104.17
Application of funds					
Fixed assets	232.91	–	–	–	–
Preliminary and pre-operative expenses	5.82	–	–	–	–
Increase in inventories	39.95	3.22	3.23	3.23	3.26
Increase in trade receivables	41.66	3.47	3.48	3.47	3.47
Repayment of term loan	17.10	37.00	41.08	45.60	50.63
Drawings	–	–	–	–	–
Total application	337.44	43.69	47.79	52.30	57.36
Net cash flow	45.14	29.25	35.27	41.16	46.81
Opening cash balance	–	45.14	74.39	109.66	150.82
Closing cash balance	45.14	74.39	109.66	150.82	197.63

14 Projected balance sheet

The projected balance sheet balances in every year. Net worth grows from ₹92.20 lakh at the end of Year 1 to ₹361.28 lakh at the end of Year 5, while the term loan outstanding falls from ₹174.31 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	63.80	63.80	63.80	63.80	63.80
Reserves and surplus	33.06	79.28	138.84	211.60	297.48
Term loan	174.31	137.31	96.23	50.63	–
Cash credit from bank	49.46	49.46	49.46	49.46	49.46
Trade creditors	15.67	16.97	18.28	19.59	20.89
Total liabilities	336.30	346.82	366.61	395.08	431.63
Assets					
Gross fixed assets	232.91	232.91	232.91	232.91	232.91
Less: accumulated depreciation	(28.02)	(52.28)	(73.31)	(91.54)	(107.35)
Net fixed assets	204.89	180.63	159.60	141.37	125.56
Preliminary expenses not written off	4.66	3.50	2.34	1.18	–
Inventories	39.95	43.17	46.40	49.63	52.89
Trade receivables	41.66	45.13	48.61	52.08	55.55
Cash and bank balance	45.14	74.39	109.66	150.82	197.63
Total assets	336.30	346.82	366.61	395.08	431.63

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 ₹72.81 lakh, 10% WDV)					
Opening written-down value	72.81	65.53	58.98	53.08	47.77
Depreciation	7.28	6.55	5.90	5.31	4.78
Closing written-down value	65.53	58.98	53.08	47.77	42.99
Plant and machinery (cost ₹128.02 lakh, 15% WDV)					
Opening written-down value	128.02	108.82	92.50	78.62	66.83
Depreciation	19.20	16.32	13.88	11.79	10.02
Closing written-down value	108.82	92.50	78.62	66.83	56.81
Other fixed assets (cost ₹15.44 lakh, 10% WDV)					
Opening written-down value	15.44	13.90	12.51	11.26	10.13
Depreciation	1.54	1.39	1.25	1.13	1.01
Closing written-down value	13.90	12.51	11.26	10.13	9.12
Total depreciation	28.02	24.26	21.03	18.23	15.81
Preliminary expenses written off	1.16	1.16	1.16	1.16	1.18

16 Term loan repayment

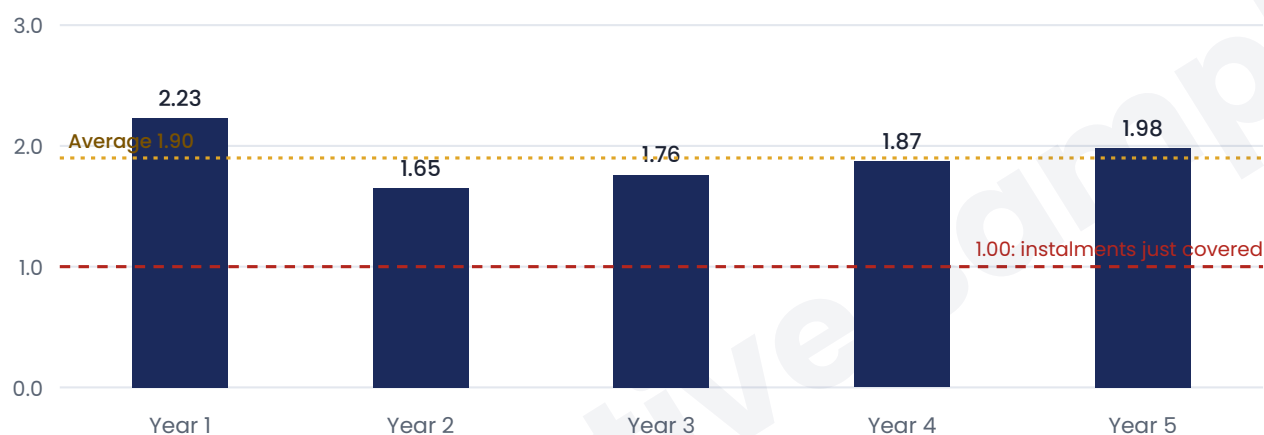
Repayment of the ₹191.41 lakh term loan starts after a moratorium of 6 months, during which interest at 10.5% is serviced. The loan is then cleared in 54 EMIs of ₹4,46,295 each, and the annexure gives the monthly schedule.

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	191.41	174.31	137.31	96.23	50.63
Interest	19.73	16.56	12.48	7.95	2.93
Principal repaid	17.10	37.00	41.08	45.60	50.63
Closing balance	174.31	137.31	96.23	50.63	—

17 Debt service coverage

Cash available for debt service covers the term loan instalments 1.90 times on average, and never less than 1.65 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	33.06	46.22	59.56	72.76	85.88
Depreciation and write-offs	29.18	25.42	22.19	19.39	16.99
Interest on term loan	19.73	16.56	12.48	7.95	2.93
Total available for debt service (A)	81.97	88.20	94.23	100.10	105.80
Principal repayment	17.10	37.00	41.08	45.60	50.63
Interest on term loan	19.73	16.56	12.48	7.95	2.93
Total debt service (B)	36.83	53.56	53.56	53.55	53.56
DSCR (A / B)	2.23	1.65	1.76	1.87	1.98

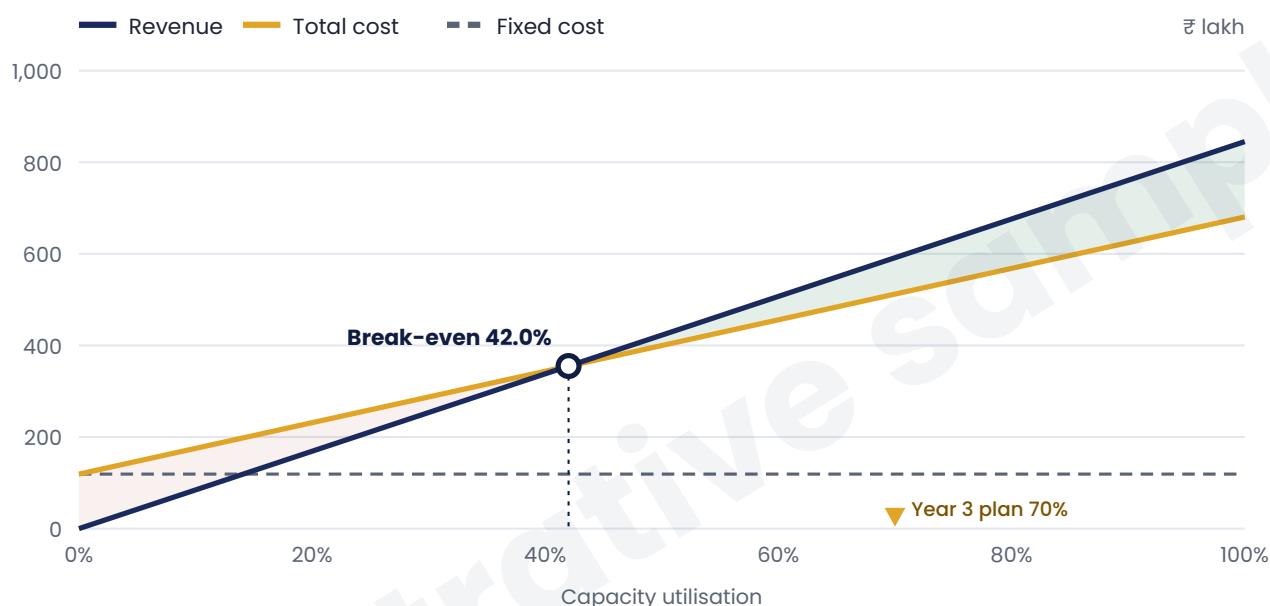


DSCR by year. A ratio above 1.00 means cash accruals cover the term loan instalments.

18 Break-even analysis

At Year 3 levels the unit breaks even at 42% of installed capacity, against planned utilisation of 70%. On a cash basis, leaving out depreciation and write-offs, break-even falls to 34.2%.

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
Revenue from operations	506.90	549.14	591.38	633.62	675.86
Variable costs	336.83	364.91	392.96	421.04	449.11
Contribution	170.07	184.23	198.42	212.58	226.75
Fixed costs (incl. depreciation and interest)	125.99	122.60	119.00	115.57	112.25
Break-even as % of installed capacity	44.4	43.3	42.0	40.8	39.6
Cash break-even as % of installed capacity	34.2	34.3	34.2	33.9	33.6
Break-even sales	375.52	365.44	354.67	344.47	334.58



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 1.95 or better in every year, and the debt-equity ratio falls from 1.89 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	1.95	2.45	3.02	3.66	4.35
Quick ratio	1.33	1.80	2.34	2.94	3.60
Debt-equity ratio (term loan / net worth)	1.89	0.98	0.48	0.18	0.00
Total outside liabilities / net worth	2.60	1.46	0.82	0.44	0.19
Interest coverage ratio	2.75	3.80	5.43	8.24	14.68
DSCR	2.23	1.65	1.76	1.87	1.98
Gross profit margin (%)	28.2	28.5	28.8	29.0	29.2
Operating profit (EBITDA) margin (%)	19.4	19.9	20.2	20.5	20.7
Net profit margin (%)	6.5	8.4	10.1	11.5	12.7
Return on capital employed (%)	21.9	25.6	28.1	29.5	29.9
Break-even (% of installed capacity)	44.4	43.3	42.0	40.8	39.6

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 ₹149 per kg, excluding GST, held constant through the projection.
- Raw materials at 44.1% of sales, packing materials at 12.3%, power and fuel at 4.5%, and selling and distribution at 5.5%.
- 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

On these illustrative assumptions, a dehydrated onion flakes unit of 2,100 kg per day costs ₹255.21 lakh to set up, earns an average return of 23.3% on that investment and pays back in about 3.4 years. An average DSCR of 1.90 and break-even at 42% of capacity point to a project that can carry its bank debt. Actual figures depend on the location, the machinery chosen, input prices and the promoter's plans, which is why a full report is prepared for each project.

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A Annexure: monthly loan repayment schedule

Term loan of ₹191.41 lakh at 10.5% a year. Amounts in ₹ lakh.

No.	Month	Opening balance	Interest	Principal	Instalment	Closing balance
1	Apr 2027	191.41	1.67	–	1.67	191.41
2	May 2027	191.41	1.67	–	1.67	191.41
3	Jun 2027	191.41	1.67	–	1.67	191.41
4	Jul 2027	191.41	1.67	–	1.67	191.41
5	Aug 2027	191.41	1.67	–	1.67	191.41
6	Sep 2027	191.41	1.67	–	1.67	191.41
7	Oct 2027	191.41	1.67	2.79	4.46	188.62
8	Nov 2027	188.62	1.65	2.81	4.46	185.81
9	Dec 2027	185.81	1.63	2.84	4.46	182.97
10	Jan 2028	182.97	1.60	2.86	4.46	180.11
11	Feb 2028	180.11	1.58	2.89	4.46	177.22
12	Mar 2028	177.22	1.55	2.91	4.46	174.31
13	Apr 2028	174.31	1.53	2.94	4.46	171.37
14	May 2028	171.37	1.50	2.96	4.46	168.41
15	Jun 2028	168.41	1.47	2.99	4.46	165.42
16	Jul 2028	165.42	1.45	3.02	4.46	162.41
17	Aug 2028	162.41	1.42	3.04	4.46	159.36
18	Sep 2028	159.36	1.39	3.07	4.46	156.29
19	Oct 2028	156.29	1.37	3.10	4.46	153.20
20	Nov 2028	153.20	1.34	3.12	4.46	150.08
21	Dec 2028	150.08	1.31	3.15	4.46	146.93
22	Jan 2029	146.93	1.29	3.18	4.46	143.75
23	Feb 2029	143.75	1.26	3.21	4.46	140.54
24	Mar 2029	140.54	1.23	3.23	4.46	137.31
25	Apr 2029	137.31	1.20	3.26	4.46	134.05
26	May 2029	134.05	1.17	3.29	4.46	130.76
27	Jun 2029	130.76	1.14	3.32	4.46	127.44
28	Jul 2029	127.44	1.12	3.35	4.46	124.09
29	Aug 2029	124.09	1.09	3.38	4.46	120.72
30	Sep 2029	120.72	1.06	3.41	4.46	117.31
31	Oct 2029	117.31	1.03	3.44	4.46	113.87
32	Nov 2029	113.87	1.00	3.47	4.46	110.41
33	Dec 2029	110.41	0.97	3.50	4.46	106.91
34	Jan 2030	106.91	0.94	3.53	4.46	103.38
35	Feb 2030	103.38	0.90	3.56	4.46	99.82
36	Mar 2030	99.82	0.87	3.59	4.46	96.23
37	Apr 2030	96.23	0.84	3.62	4.46	92.61
38	May 2030	92.61	0.81	3.65	4.46	88.96
39	Jun 2030	88.96	0.78	3.68	4.46	85.28

No.	Month	Opening balance	Interest	Principal	Instalment	Closing balance
40	Jul 2030	85.28	0.75	3.72	4.46	81.56
41	Aug 2030	81.56	0.71	3.75	4.46	77.81
42	Sep 2030	77.81	0.68	3.78	4.46	74.03
43	Oct 2030	74.03	0.65	3.82	4.46	70.21
44	Nov 2030	70.21	0.61	3.85	4.46	66.36
45	Dec 2030	66.36	0.58	3.88	4.46	62.48
46	Jan 2031	62.48	0.55	3.92	4.46	58.57
47	Feb 2031	58.57	0.51	3.95	4.46	54.61
48	Mar 2031	54.61	0.48	3.99	4.46	50.63
49	Apr 2031	50.63	0.44	4.02	4.46	46.61
50	May 2031	46.61	0.41	4.06	4.46	42.55
51	Jun 2031	42.55	0.37	4.09	4.46	38.46
52	Jul 2031	38.46	0.34	4.13	4.46	34.34
53	Aug 2031	34.34	0.30	4.16	4.46	30.18
54	Sep 2031	30.18	0.26	4.20	4.46	25.98
55	Oct 2031	25.98	0.23	4.24	4.46	21.74
56	Nov 2031	21.74	0.19	4.27	4.46	17.47
57	Dec 2031	17.47	0.15	4.31	4.46	13.16
58	Jan 2032	13.16	0.12	4.35	4.46	8.81
59	Feb 2032	8.81	0.08	4.39	4.46	4.42
60	Mar 2032	4.42	0.04	4.42	4.46	–