



AN ISO 9001 : 2015 CERTIFIED COMPANY

Detailed project report

Sample edition

Projections from FY 2027-28

Project report

Detergent Powder

Installed capacity 9,000 kg per day

Sector Cleaning products

Total project cost ₹301.91 lakh

Illustrative sample
Figures are representative

Detergent Powder
9,000 kg per day

Project at a glance

Product	Detergent Powder	Sector	Cleaning products
Installed capacity	9,000 kg per day	Annual capacity	27,00,000 kg per year
Selling price (ex-GST)	₹40.20 per kg	Working days	300 a year
Manpower	23 people	Plant and machinery	₹148.88 lakh
Total project cost	₹301.91 lakh	Promoter's contribution	₹75.48 lakh (25%)
Term loan	₹226.43 lakh (75%)	Cash credit limit	₹60.93 lakh
Revenue, Year 3	₹759.78 lakh at 70%	Net profit, Year 3	₹80.32 lakh
Return on investment	26.6% a year	Break-even, Year 3	37.9% of capacity
Average DSCR	2.07	Payback period	3.1 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

The project modelled here is a unit producing detergent powder in the cleaning products sector, sized at 9,000 kg per day. Working 300 days a year, the plant can turn out 27,00,000 kg per year at full capacity. The product's applications range from hand washing of everyday clothes to washing of linen in hotels and hospitals.

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 ₹759.78 lakh worth of detergent powder and keeps ₹80.32 lakh as net profit.

2 Uses and applications

The product is bought for these main uses:

- Hand washing of everyday clothes
- Washing in top-load and semi-automatic machines
- Bulk washing in commercial laundries
- Washing of linen in hotels and hospitals

3 Market potential

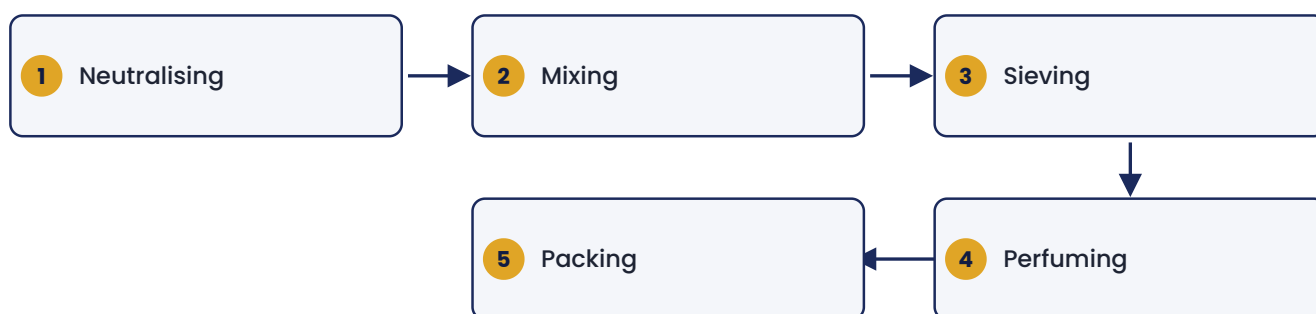
Detergent powder is the most widely used laundry product in India, and demand is led by economy and mid-price packs sold through kirana stores in small towns and villages. Big national brands hold the shelf in cities, so a new unit usually grows through a regional brand priced below them, private-label packing for distributors and bulk supply to laundries and institutions. Distributor margins, scheme offers and the price of acid slurry and soda ash decide how fast a new brand moves.

The usual customers for a unit of this kind are distributors and wholesalers of FMCG goods; kirana and general stores in towns and villages; commercial laundries and dhobi clusters; hotels, hospitals and hostels; and retail chains and distributors buying under private label.

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

The manufacturing process runs in five stages. Each stage is described below, and the flow chart shows the sequence.



Process flow for detergent powder

- 1 Neutralising.** LABSA is neutralised with soda ash in a mixer to form the active slurry.
- 2 Mixing.** Soda ash, fillers and builders are blended in.
- 3 Sieving.** The powder is sieved to break lumps and get an even grain.
- 4 Perfuming.** Perfume and colour speckles are sprayed on.
- 5 Packing.** Powder is packed in pouches and bags.

5 Raw materials

The main raw materials are LABSA, soda ash, fillers, and perfume and colour. In Year 3, at 70% utilisation, raw materials cost ₹400.13 lakh, about 52.7% of sales. The table shows how this cost splits between materials.

Raw material	Share of cost	Year 3 cost (₹ lakh)
LABSA	30.0%	120.04
Soda ash	35.0%	140.05
Fillers	25.0%	100.03
Perfume and colour	10.0%	40.01
Total raw materials	100.0%	400.13

6 Plant and machinery

Plant and machinery accounts for ₹148.88 lakh of the project cost. The packing machine takes the largest share, and the other items and their indicative costs are listed below.

Machinery and equipment	Indicative cost (₹ lakh)
Mixer	44.66
Sifter	22.33
Packing machine	52.11
Conveyors	14.89
Dust collector	14.89
Total plant and machinery	148.88

7 Land, building and utilities

The model includes land and site development of ₹15.44 lakh and building and civil works of ₹78.16 lakh, covering the production shed, raw material and finished goods stores, and an office. Other fixed assets such as electrification, furniture, laboratory equipment and a DG set add ₹20.90 lakh.

Utilities in Year 3 cost ₹22.41 lakh for power and fuel, or 2.9% of sales. The plant also needs a reliable water supply for cleaning and domestic use, and for the process where required.

8 Manpower

The unit employs 23 people. Wages and salaries come to ₹41.88 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	12	11,000	15.84
Total (Year 1)	23		41.88

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
- IS 4955:2020 for household laundry detergent powders, with BIS certification voluntary
- Legal Metrology registration as a packer and the label declarations required by the Packaged Commodities Rules
- EPR obligations for plastic packaging under the Plastic Waste Management Rules, through the CPCB portal

10 Project cost and means of finance

Project cost is estimated at ₹301.91 lakh, including fixed assets of ₹274.73 lakh and margin money for working capital of ₹20.31 lakh.

Cost of project	₹ lakh
Land and site development	15.44
Building and civil works	78.16
Plant and machinery	148.88
Other fixed assets (electrification, furniture, lab equipment, DG set)	20.90
Contingencies	11.35
Preliminary and pre-operative expenses	6.87
Margin money for working capital	20.31
Total cost of project	301.91

Means of finance

The promoter contributes ₹75.48 lakh (25% of project cost) and a term loan funds the remaining ₹226.43 lakh. Working capital is supported by a cash credit limit of ₹60.93 lakh.

Source of funds	₹ lakh
Promoter's contribution (25%)	75.48
Term loan from bank (75%)	226.43
Total means of finance	301.91
<i>Cash credit limit for working capital (separate)</i>	<i>60.93</i>

11 Working capital

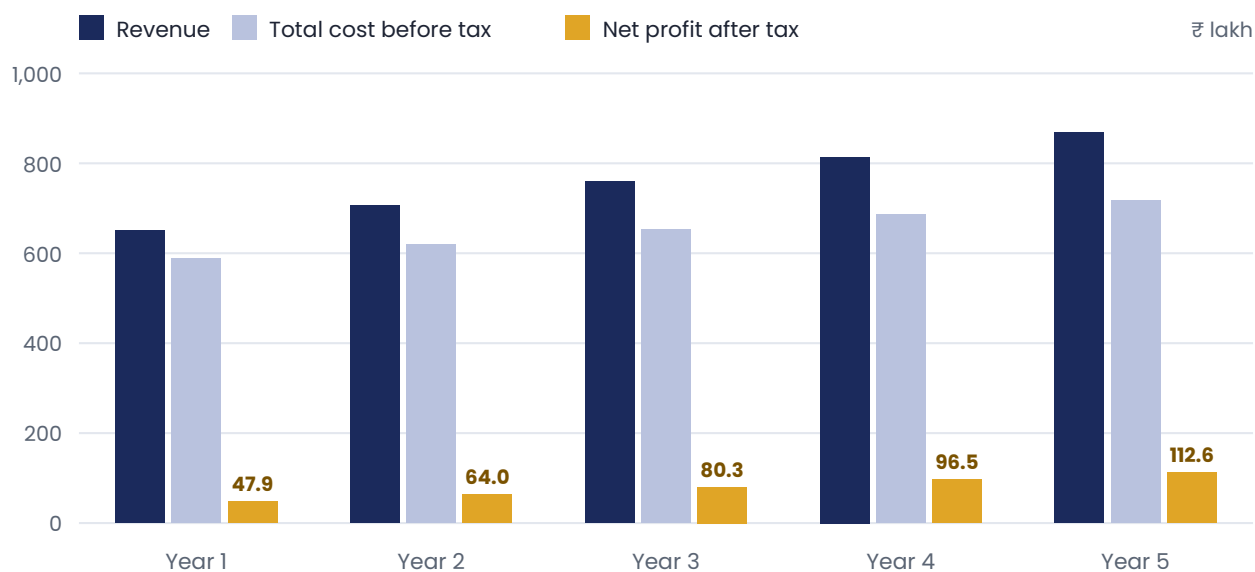
The unit needs ₹81.24 lakh of working capital in Year 1, based on 30 days of raw material stock, 15 days of finished goods and 30 days of customer credit, net of 20 days of supplier credit. Of this, ₹60.93 lakh comes from the bank and ₹20.31 lakh from the promoter.

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)	28.19	30.54	32.89	35.24	37.59
Work in progress (2 days)	2.21	2.39	2.57	2.75	2.93
Finished goods (15 days)	18.79	20.29	21.79	23.30	24.82
Trade receivables (30 days)	53.53	57.99	62.45	66.91	71.37
Total current assets	102.72	111.21	119.70	128.20	136.71
Less: trade creditors (20 days)	21.48	23.27	25.06	26.85	28.64
Working capital requirement	81.24	87.94	94.64	101.35	108.07

12 Projected profitability

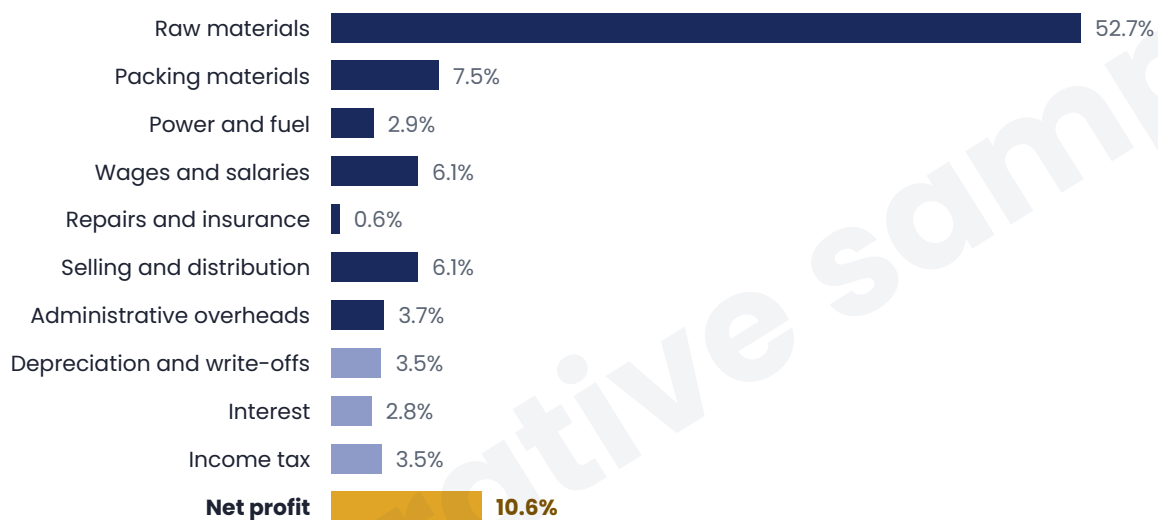
Revenue grows from ₹651.24 lakh in Year 1, at 60% utilisation, to ₹868.32 lakh in Year 5 at 80%. Net profit rises from ₹47.88 lakh to ₹112.58 lakh over the same period, an average net margin of 10.4%.

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	651.24	705.51	759.78	814.05	868.32
Raw materials consumed	342.97	371.55	400.13	428.71	457.29
Packing materials	49.11	53.20	57.30	61.39	65.48
Power and fuel	19.21	20.81	22.41	24.01	25.62
Wages and salaries	41.88	43.97	46.17	48.48	50.91
Repairs and maintenance	2.98	3.13	3.28	3.45	3.62
Insurance	1.04	1.04	1.04	1.04	1.04
Cost of production	457.19	493.70	530.33	567.08	603.96
Gross profit	194.05	211.81	229.45	246.97	264.36
Selling and distribution expenses	39.54	42.84	46.13	49.43	52.72
Administrative overheads	25.51	26.78	28.12	29.53	31.00
Operating profit (EBITDA)	129.00	142.19	155.20	168.01	180.64
Depreciation	33.75	29.20	25.28	21.90	18.99
Preliminary expenses written off	1.37	1.37	1.37	1.37	1.39
Interest on term loan	23.34	19.58	14.76	9.41	3.46
Interest on cash credit	6.70	6.70	6.70	6.70	6.70
Profit before tax	63.84	85.34	107.09	128.63	150.10
Income tax	15.96	21.34	26.77	32.16	37.52
Profit after tax	47.88	64.00	80.32	96.47	112.58



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 ₹283.98 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	75.48	–	–	–	–
Term loan from bank	226.43	–	–	–	–
Cash credit (working capital) from bank	60.93	–	–	–	–
Net profit after tax	47.88	64.00	80.32	96.47	112.58
Depreciation	33.75	29.20	25.28	21.90	18.99
Preliminary expenses written off	1.37	1.37	1.37	1.37	1.39
Increase in trade creditors	21.48	1.79	1.79	1.79	1.79
Total sources	467.32	96.36	108.76	121.53	134.75
Application of funds					
Fixed assets	274.73	–	–	–	–
Preliminary and pre-operative expenses	6.87	–	–	–	–
Increase in inventories	49.19	4.03	4.03	4.04	4.05
Increase in trade receivables	53.53	4.46	4.46	4.46	4.46
Repayment of term loan	20.23	43.77	48.59	53.95	59.89
Drawings	–	–	–	–	–
Total application	404.55	52.26	57.08	62.45	68.40
Net cash flow	62.77	44.10	51.68	59.08	66.35
Opening cash balance	–	62.77	106.87	158.55	217.63
Closing cash balance	62.77	106.87	158.55	217.63	283.98

14 Projected balance sheet

Over the projection, retained profits build the promoter's net worth from ₹117.86 lakh to ₹476.73 lakh, and the term loan reduces from ₹206.20 lakh to nil as it is repaid.

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	75.48	75.48	75.48	75.48	75.48
Reserves and surplus	47.88	111.88	192.20	288.67	401.25
Term loan	206.20	162.43	113.84	59.89	–
Cash credit from bank	60.93	60.93	60.93	60.93	60.93
Trade creditors	21.48	23.27	25.06	26.85	28.64
Total liabilities	411.97	433.99	467.51	511.82	566.30
Assets					
Gross fixed assets	274.73	274.73	274.73	274.73	274.73
Less: accumulated depreciation	(33.75)	(62.95)	(88.23)	(110.13)	(129.12)
Net fixed assets	240.98	211.78	186.50	164.60	145.61
Preliminary expenses not written off	5.50	4.13	2.76	1.39	–
Inventories	49.19	53.22	57.25	61.29	65.34
Trade receivables	53.53	57.99	62.45	66.91	71.37
Cash and bank balance	62.77	106.87	158.55	217.63	283.98
Total assets	411.97	433.99	467.51	511.82	566.30

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 ₹82.07 lakh, 10% WDV)					
Opening written-down value	82.07	73.86	66.47	59.82	53.84
Depreciation	8.21	7.39	6.65	5.98	5.38
Closing written-down value	73.86	66.47	59.82	53.84	48.46
Plant and machinery (cost ₹156.32 lakh, 15% WDV)					
Opening written-down value	156.32	132.87	112.94	96.00	81.60
Depreciation	23.45	19.93	16.94	14.40	12.24
Closing written-down value	132.87	112.94	96.00	81.60	69.36
Other fixed assets (cost ₹20.90 lakh, 10% WDV)					
Opening written-down value	20.90	18.81	16.93	15.24	13.72
Depreciation	2.09	1.88	1.69	1.52	1.37
Closing written-down value	18.81	16.93	15.24	13.72	12.35
Total depreciation	33.75	29.20	25.28	21.90	18.99
Preliminary expenses written off	1.37	1.37	1.37	1.37	1.39

16 Term loan repayment

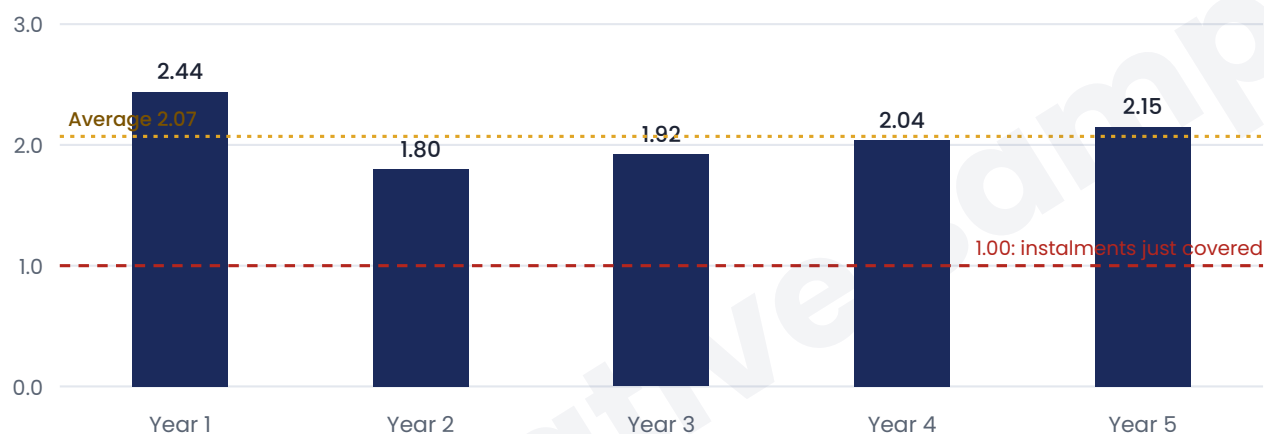
Repayment of the ₹226.43 lakh term loan starts after a moratorium of 6 months, during which interest at 10.5% is serviced. The loan is then cleared in 54 EMIs of ₹5,27,949 each, and the annexure gives the monthly schedule.

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	226.43	206.20	162.43	113.84	59.89
Interest	23.34	19.58	14.76	9.41	3.46
Principal repaid	20.23	43.77	48.59	53.95	59.89
Closing balance	206.20	162.43	113.84	59.89	—

17 Debt service coverage

The debt service coverage ratio averages 2.07 over the repayment years, with a low of 1.80 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	47.88	64.00	80.32	96.47	112.58
Depreciation and write-offs	35.12	30.57	26.65	23.27	20.38
Interest on term loan	23.34	19.58	14.76	9.41	3.46
Total available for debt service (A)	106.34	114.15	121.73	129.15	136.42
Principal repayment	20.23	43.77	48.59	53.95	59.89
Interest on term loan	23.34	19.58	14.76	9.41	3.46
Total debt service (B)	43.57	63.35	63.35	63.36	63.35
DSCR (A / B)	2.44	1.80	1.92	2.04	2.15

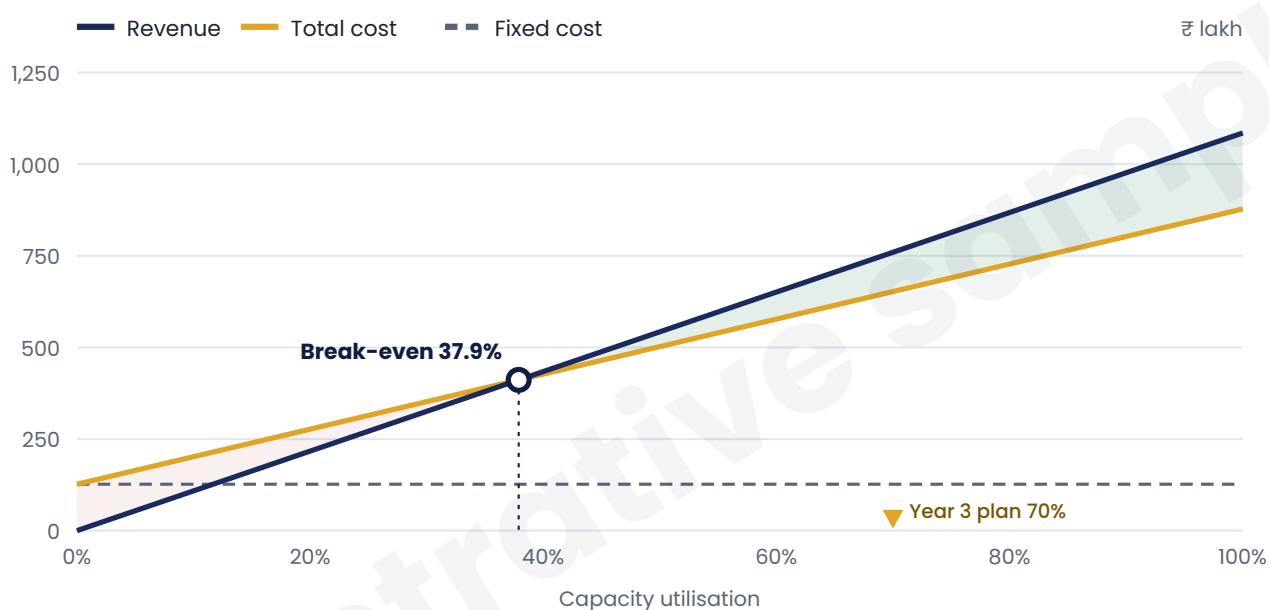


DSCR by year. A ratio above 1.00 means cash accruals cover the term loan instalments.

18 Break-even analysis

The unit needs to run at 37.9% 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 30%.

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	651.24	705.51	759.78	814.05	868.32
Variable costs	450.83	488.40	525.97	563.54	601.11
Contribution	200.41	217.11	233.81	250.51	267.21
Fixed costs (incl. depreciation and interest)	136.57	131.77	126.72	121.88	117.11
Break-even as % of installed capacity	40.9	39.5	37.9	36.5	35.1
Cash break-even as % of installed capacity	30.4	30.3	30.0	29.5	29.0
Break-even sales	443.79	428.19	411.78	396.06	380.56



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 2.01 or better in every year, and the debt-equity ratio falls from 1.75 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	2.01	2.59	3.24	3.94	4.70
Quick ratio	1.41	1.96	2.57	3.24	3.97
Debt-equity ratio (term loan / net worth)	1.75	0.89	0.43	0.17	0.00
Total outside liabilities / net worth	2.45	1.35	0.75	0.41	0.19
Interest coverage ratio	3.13	4.25	5.99	8.98	15.77
DSCR	2.44	1.80	1.92	2.04	2.15
Gross profit margin (%)	29.8	30.0	30.2	30.3	30.4
Operating profit (EBITDA) margin (%)	19.8	20.2	20.4	20.6	20.8
Net profit margin (%)	7.4	9.1	10.6	11.9	13.0
Return on capital employed (%)	24.4	27.5	29.2	29.9	29.8
Break-even (% of installed capacity)	40.9	39.5	37.9	36.5	35.1

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 ₹40.20 per kg, excluding GST, held constant through the projection.
- Raw materials at 52.7% of sales, packing materials at 7.5%, power and fuel at 2.9%, and selling and distribution at 6.1%.
- 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, 15 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 detergent powder unit of 9,000 kg per day costs ₹301.91 lakh to set up, earns an average return of 26.6% on that investment and pays back in about 3.1 years. An average DSCR of 2.07 and break-even at 37.9% 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 ₹226.43 lakh at 10.5% a year. Amounts in ₹ lakh.

No.	Month	Opening balance	Interest	Principal	Instalment	Closing balance
1	Apr 2027	226.43	1.98	–	1.98	226.43
2	May 2027	226.43	1.98	–	1.98	226.43
3	Jun 2027	226.43	1.98	–	1.98	226.43
4	Jul 2027	226.43	1.98	–	1.98	226.43
5	Aug 2027	226.43	1.98	–	1.98	226.43
6	Sep 2027	226.43	1.98	–	1.98	226.43
7	Oct 2027	226.43	1.98	3.30	5.28	223.13
8	Nov 2027	223.13	1.95	3.33	5.28	219.80
9	Dec 2027	219.80	1.92	3.36	5.28	216.45
10	Jan 2028	216.45	1.89	3.39	5.28	213.06
11	Feb 2028	213.06	1.86	3.42	5.28	209.65
12	Mar 2028	209.65	1.83	3.45	5.28	206.20
13	Apr 2028	206.20	1.80	3.48	5.28	202.73
14	May 2028	202.73	1.77	3.51	5.28	199.22
15	Jun 2028	199.22	1.74	3.54	5.28	195.69
16	Jul 2028	195.69	1.71	3.57	5.28	192.12
17	Aug 2028	192.12	1.68	3.60	5.28	188.52
18	Sep 2028	188.52	1.65	3.63	5.28	184.89
19	Oct 2028	184.89	1.62	3.66	5.28	181.23
20	Nov 2028	181.23	1.59	3.69	5.28	177.53
21	Dec 2028	177.53	1.55	3.73	5.28	173.81
22	Jan 2029	173.81	1.52	3.76	5.28	170.05
23	Feb 2029	170.05	1.49	3.79	5.28	166.26
24	Mar 2029	166.26	1.45	3.82	5.28	162.43
25	Apr 2029	162.43	1.42	3.86	5.28	158.58
26	May 2029	158.58	1.39	3.89	5.28	154.68
27	Jun 2029	154.68	1.35	3.93	5.28	150.76
28	Jul 2029	150.76	1.32	3.96	5.28	146.80
29	Aug 2029	146.80	1.28	4.00	5.28	142.80
30	Sep 2029	142.80	1.25	4.03	5.28	138.77
31	Oct 2029	138.77	1.21	4.07	5.28	134.71
32	Nov 2029	134.71	1.18	4.10	5.28	130.61
33	Dec 2029	130.61	1.14	4.14	5.28	126.47
34	Jan 2030	126.47	1.11	4.17	5.28	122.30
35	Feb 2030	122.30	1.07	4.21	5.28	118.09
36	Mar 2030	118.09	1.03	4.25	5.28	113.84
37	Apr 2030	113.84	1.00	4.28	5.28	109.56
38	May 2030	109.56	0.96	4.32	5.28	105.24
39	Jun 2030	105.24	0.92	4.36	5.28	100.88

No.	Month	Opening balance	Interest	Principal	Instalment	Closing balance
40	Jul 2030	100.88	0.88	4.40	5.28	96.48
41	Aug 2030	96.48	0.84	4.44	5.28	92.05
42	Sep 2030	92.05	0.81	4.47	5.28	87.57
43	Oct 2030	87.57	0.77	4.51	5.28	83.06
44	Nov 2030	83.06	0.73	4.55	5.28	78.51
45	Dec 2030	78.51	0.69	4.59	5.28	73.91
46	Jan 2031	73.91	0.65	4.63	5.28	69.28
47	Feb 2031	69.28	0.61	4.67	5.28	64.61
48	Mar 2031	64.61	0.57	4.71	5.28	59.89
49	Apr 2031	59.89	0.52	4.76	5.28	55.14
50	May 2031	55.14	0.48	4.80	5.28	50.34
51	Jun 2031	50.34	0.44	4.84	5.28	45.50
52	Jul 2031	45.50	0.40	4.88	5.28	40.62
53	Aug 2031	40.62	0.36	4.92	5.28	35.70
54	Sep 2031	35.70	0.31	4.97	5.28	30.73
55	Oct 2031	30.73	0.27	5.01	5.28	25.72
56	Nov 2031	25.72	0.23	5.05	5.28	20.66
57	Dec 2031	20.66	0.18	5.10	5.28	15.57
58	Jan 2032	15.57	0.14	5.14	5.28	10.42
59	Feb 2032	10.42	0.09	5.19	5.28	5.23
60	Mar 2032	5.23	0.05	5.23	5.28	–