

## AYURVEDIC MEDICINE

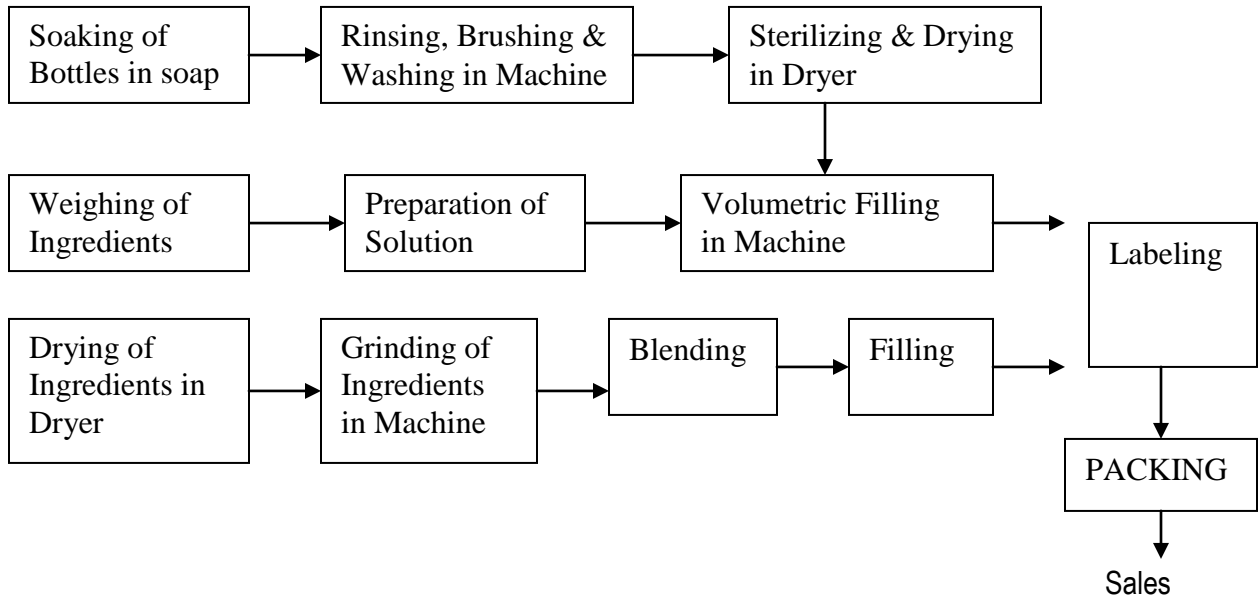
**Introduction:** Ayurvedic medicine is a traditional type of medicine. It is now being recognized all over the world as one of the best type of medicine. It was ingredients derived from nature in palatable condition. It has sub-types of medicines like likable (Lehya), Tablets (Bori), Liquid (Peya), Extracts (Ariata), powder (Churna), etc. here Liquid & Powder for us of Ayurvedic medicines are envisaged for production. Though the specifications of such Ayurvedic medicines are as per Ayurved, now-a-days some practices of Indian pharmacopoca and good-Manufacturing Practice of Medicine manufacturing are applied to Ayurvedic medicine as well.

**Market:** Ayurvedic medicines like cough syrup containing Vasaka juice, Basil Leaf juice, Honey, etc. are now prescribed even by Apathic medical practitioners. Some liver tonics based on Ayurved has become household items all over the country. Also products like Triphala Churna, Digestive powders, etc. are very popular remedies used all over the country. Besides, parallal to Apathic & Homeopathic systems, Ayurvedic system medical institutions are set up by Governments. In Tripura 42 Ayurvedic Health Sub-Centres are promoted by the State Government. Based on th state average these institutions may treat 2,00,000 out patients every year, which may ceate Rs. 100.00 Lakhs worth of demand for medicines. Besides, off-the-Counter products like Cough Syrup, Liver tonic, etc. may have an annual demand of Rs. 100.00 lakhs in the state. At present large Ayurvedic brands like Dabur, Himalayan, Drugs, Baidyanath, Bajranga, etc. are catering to these demands. Two tiny local units of Tripura are also selling Ayurvedic medicine in the state. With increased acceptance of Yoga and Ayurvedic system of Medicine, the demand for Ayurvedic medicines have increased in rapid strides. Besides, Ayurvedic medicines promoted by some organised producers through the use of Medical Representatives have created greater acceptance of them. Therefore marketing scope of Ayurvedic medicines have increased significantly to enable many small manufacturing units to flourish.

**Installed Capacity:** The unit shall work for single shift & 8 hours per day for 300 working days per annum. Considering the machine variable the annual installed capacity is accordingly estimated at 6,50,000 numbers of 60 ml Bottles of liquid medicines and 28,000 Nos. of 60 gms. Bottles of powdered medicines.

**Process of Manufacture:** The manufacturing process of liquid (Peya) Ayurvedic Medicines needs to be supervised by one Manufacturing Ayurvedacharya (Ayurvedic Chemist). These are complex formulary operations needing expert in Ayurvedic preparations. Based on exact proportions of ingredients they are weighed. Water used for formulations need to be purified by removal of Iron & Arsenic, if any. Then the water is De-mineralized. The material of containers used need to be either ceramic or that of stainless steel. Water solution of ingredients are made by using SS stirrers and, where necessary, by heating or by combination of both these process. These are then clarified by filtration in sparkler filter. Glass bottles are cleaned in Brushing, Rinsing and Washing Machine. These are sterilized in Bottle Dryer. The prepared and filtered liquid medicine after testing by Analytical Ayurvedic chemist are filled in clean & sterilized bottles in a volumetric filling machine. The bottles are capped by pilfer proof Aluminium Caps in a cap sealing machine. These filled up bottles are visually inspected and wiped dry. These are then sent for labeling and batch printing. These are then packed in corrugated cardboard Boxes and labeled again. Ayurvedic powdered medicines are prepared by drying ingredients. These dry ingredients are powdered by using Crusher of Grinder type. These powders in exact proportions are blended together in stainless steel cone blender. After testing these are filled in Glass/ Plastic containers. These containers are labeled and packed in corrugated Cardboard Boxes, which are also labeled. The manufacturing process needs direct supervision of manufacturing Ayurvedic Chemist.

**Process Flow Chart:**



**Raw Materials:** The unit shall use various Ayurvedic Medicines including Goose berry, Mint, Basil leaves, Vasaka, etc. depending upon the end. Product with Emulsifying wax, Light Kaoline, Computer, Amber Glass Boules, P.P. Caps, Labells and corrugated Cardboard Boxes. Besides, it will need liquid soap, 5% Hydrochloric Acid, etc. for bottle cleaning. Also Hydrochloric Acid and Caustic Soda Flakes shall be required for re-generation of De-Mineralisation plant.

Sl.No.	Raw Material/ Packing Material	Quantity	Cost
1.	Ayurvedic medicinal herbs/ ingredients	3500 Kilograms	5,77,500/-
2.	Emulsifying wax	85 Kilograms	6,078/-
3.	Light Kaoline	85 Kilograms	935/-
4.	Used Amber Glass Bottles	6,95,000 Nos.	19,11,250/-
5.	Printed Corrugated Cardboard Boxes with partitions	6,95,000 Nos.	3,82,250/-
6.	Printed Corrugated Cardboard	4,800 sets.	79,200/-
7.	Labels for Bottles	6,95,000 Nos.	3,82,250/-
8.	Liquid soap, Hydrochloric Acid & Caustic Soda Flakes	L.S.	1,25,538/-
		Total:	34,65,,000/-

**Power:** The unit will need 25 KW of total connected load at 400/440 volts, 50 Ha, AC< 3 phase of 4 wire. The power shall be drawn through a Step-Down Transformer from State Power Supply Corporation Grid. The annual power consumption at the installed capacity is estimated at 33750 KW Hrs costing Rs. 1,28,250/-.

**Water:** The quality of water of the unit needs to be of highest quality. The daily requirement of water is estimated at 5000 Ltrs. Out of which 1000 Ltrs. Need to be de-mineralized. The water shall be available at site from Ground Water Sources.

**Manpower:** The unit need to appoint two Ayurvedacharya (Ayurvedic Chemists) for manufacturing and testing. These and the remaining workers may be locally available. Chemists and skilled man power need to be trained in machine operations well ahead of production. The requirement and annual cost of manpower is shown below:

Sl.No.	Category of Manpower	No. of persons	Annual Costs
1.	Manager	1	95,700/-
2.	Ayurvedacharyas	2	1,32,000/-
3.	Administrative and Sales Assistants	3	1,38,600/-
4.	Skilled workers	4	2,11,200/-
5.	Unskilled workers	4	1,32,000/-
	<b>Total:</b>	<b>14</b>	<b>7,09,500/-</b>

### CAPITAL COST ESTIMATE

1. Land & Building : Covered area of 240 sq.Mtrs.	On Rent
2. Plant & Machinery	
(a) 60 kg. Capacity Double Cone Blender	Rs. 1,20,000/-
(b) Twin-head Bottle Washing Machine of Semi-automatic type with 0.5 HP Motor & G.I. Tank	Rs. 36,000/-
(c) Six Tray Bottle Dryer with 12 Aluminium Trays	Rs. 66,000/-
(d) 300 ltrs. Charge propeller type stirrer with 1 HP Motor	Rs. 30,000/-
(e) Six Plate Sparkler fitter with 0.5 HP Motor	Rs. 66,000/-
(f) Three 200 Ltr. Capacity SS Vats	Rs. 66,000/-
(g) Twin-Heed Volumetric Liquid filling machine	Rs. 72,000/-
(h) Treadle Type Cap sealing machine	Rs. 30,000/-
(i) 50 Ltrs. Per hour De-mineralizing Plant	Rs. 36,000/-
(j) Single Pan Digital chemical Analytical balance	Rs. 30,000/-
(k) Laboratory equipments including pH Meter, polarimeter, M.P.Apparatus, Distilled water Plant, Hot Plate, water bath, Balance, Glassware, etc.	Rs 1,02,000/-
(l) One LPG connection with stove and 50 Ltr. Capacity SS Vessel	Rs. 18,000/-
(m) One manual Batch Printing Machine	Rs. 12,000/-
	<u>Rs. 6,84,000/-</u>
3. <b>Miscellaneous Fixed Assets</b>	
(a) Electrification	Rs. 1,04,500/-
(b) Water installation	Rs. 27,500/-
(c) Computer & other misc. assets	Rs. 88,000/-
	<u>Rs. 2,20,000/-</u>
4. Provision for contingency	Rs. 44,000/-
5. Preliminary & Pre-operative expenses	Rs. 38,500/-
	<u>Rs. 38,500/-</u>
<b>Total Project Costs:</b>	<b><u>Rs. 9,86,500/-</u></b>

6. Working Capital (for 1 month):

(a) Raw Materials	Rs. 2,88,750/-
(b) Power	Rs. 11,757/-
(c) Wages & Salaries	Rs. 59,125/-
(d) Miscellaneous expenses	Rs. 19,868/-

**Total Rs. 3,79,500/-**

**Total Project Cost Rs.13,66,000/-**

**Means of Finance:**

1. Composite Loan under PMEGP	Rs. 9,56,200/-	Rs. 8,19,600/-
2. Subsidy	Rs. 3,41,500/-	Rs. 4,78,100/-
3. Promoter's contribution	Rs. 68,300/-	Rs. 68,300/-
4. Debt Equity Ratio	2.33:1	1.50:1

**Profitability:**

**Rs. in Thousand**

Sl.No.	Description	1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	4 <sup>th</sup> year	5 <sup>th</sup> year
1.	Capacity utilized as percent of installed capacity	60%	70%	80%	80%	80%
2.	Annual Sales Realization in Rs.	3912	4565	5217	5217	5217
3.	<b>Annual Costs in Rs.</b>					
a)	Raw Materials	2079	2425	2772	2772	2772
b)	Power	85	99	113	113	113
c)	Wages & Salaries	657	684	727	746	763
d)	Repair & Maintenance	36	36	36	36	36
e)	Administrative expenses	110	116	121	128	134
f)	Selling expenses	596	695	850	850	850
g)	Depreciation	95	95	95	95	95
h)	Interest on Composite Loan	110	91	67	40	14
	Total:	3768	4241	4781	4780	4777
	<b>Total variable Cost</b>	<b>2760</b>	<b>3219</b>	<b>3735</b>	<b>3735</b>	<b>3735</b>
4.	Annual Profit	144	324	436	437	440
5.	Return on Investment	11.93%	25.55%	34.03%	34.03%	34.12%
6.	Return on sales	3.99%	7.33%	8.54%	8.54%	8.56%
7.	Annual contribution	1152	-	-	-	-
8.	Break Even Point as percent of capacity	52.50%				
9.	Cash accrual	239	419	531	532	535
10.	Debt Servicing Capacity	349	510	598	577	549
11.	Repayment of Composite Loan	155	181	207	207	206
12.	Debt Serviced	265	272	274	247	220
13.	Pay Back Period	2 years 5 months 16 days				
14.	Debt Service Coverage Ratio	2.10:1				

## Cash Flow Statement

Rs. in Thousand

Sl. No.	Description	Pre-operative Period	Operating Years				
			First	Second	Third	Fourth	Fifth
1.	Increase in Promoter's contribution	68	-	-	-	-	-
2.	Increase in Subsidy	342	-	-	-	-	-
3.	Increase in Loan	956	-	-	-	-	-
4.	Depreciation	-	95	95	95	95	95
5.	Profit before interests	-	254	415	503	477	454
<b>A.</b>	<b>TOTAL SOURCES</b>	<b>1366</b>	<b>349</b>	<b>510</b>	<b>598</b>	<b>572</b>	<b>549</b>
6.	Increase in capital investment	986	-	-	-	-	-
7.	Increase in working capital	380	-	-	-	-	-
8.	Interest	-	110	91	67	40	14
9.	Repayment of Term Loan	-	155	181	207	207	206
<b>B.</b>	<b>TOTAL DISPOSALS</b>	<b>1366</b>	<b>265</b>	<b>272</b>	<b>274</b>	<b>247</b>	<b>220</b>
<b>C.</b>	<b>OPENING BALANCE</b>	<b>NIL</b>	<b>NIL</b>	<b>84</b>	<b>322</b>	<b>646</b>	<b>971</b>
<b>D.</b>	<b>NET SURPLUS</b>	<b>NIL</b>	<b>84</b>	<b>238</b>	<b>324</b>	<b>325</b>	<b>329</b>
<b>E.</b>	<b>CLOSING BALANCE</b>	<b>NIL</b>	<b>84</b>	<b>322</b>	<b>646</b>	<b>971</b>	<b>1300</b>

### Projected Balance sheet:

Sl.No.	Description	Amount in Rs. Thousands as at the end of the				
		1 <sup>st</sup> Yr.	2 <sup>nd</sup> Yr.	3 <sup>rd</sup> Yr.	4 <sup>th</sup> Yr.	5 <sup>th</sup> Yr.
1.	Capital Account of Promoter	68	212	536	972	1409
2.	Surplus from operation	144	324	436	437	440
	<b>NET WORTH:</b>	<b>212</b>	<b>536</b>	<b>972</b>	<b>1409</b>	<b>1849</b>
<b>3.</b>	<b>Subsidy</b>	<b>342</b>	<b>342</b>	<b>342</b>	<b>342</b>	<b>342</b>
4.	Loan Account	801	620	413	206	-
	<b>TOTAL LIABILITIES</b>	<b>1355</b>	<b>1498</b>	<b>1727</b>	<b>1957</b>	<b>2191</b>
1.	Gross Fixed Assets	986	986	986	986	986
	Less Depreciation	95	190	285	280	475
	<b>NET BLOCK</b>	<b>891</b>	<b>796</b>	<b>701</b>	<b>606</b>	<b>511</b>
2.	Current Assets	380	380	380	380	380
3.	Cash & Bank Balance	<b>84</b>	<b>322</b>	<b>646</b>	<b>971</b>	<b>1300</b>
	<b>TOTAL ASSETS</b>	<b>1355</b>	<b>1498</b>	<b>1727</b>	<b>1957</b>	<b>2191</b>