

PROJECT PROFILE
ON
AYURVEDIC MEDICINE

MONTH & YEAR
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AYURVEDIC MEDICINE

A. INTRODUCTION

Ayurvedic medicines are directly based upon natural products viz plants, animal extract and minerals in various combinations. This is an age old system of medicine and has two major groups. One in which medicine are based upon plants called Kasthanusadhis and the other one in which drugs are mainly derived from metals and minerals. These plants and minerals are abundantly available in various parts of India.

B. PRODUCT USES AND SPECIFICATIONS

Ayurvedic medicines have 21 varieties of formulations of single drugs extract from plants, animal source and minerals. Out of the several medicines form the categories of Asavarishta, Rasyans, Churna, Avelaha, Bhasma etc. Few selected are as follows.

- * Ashokarishta
- * Lakhibilas ras
- * Mritasanjivani sura
- * Sitopaladi churna
- * Bhaskar lavan
- * Chyavanprash aveleha
- * Gandhakadi malham

Ayurvedic medicine treats people rather than diseases, causes rather than symptoms, individuals rather than stereotypes.

Ayurvedic medicine uses medication and advice to support the patient's own vital energy and self healing potential.

It prescribes essentially non toxic herbal treatment derived from the whole plant and not from isolated or synthetic ingredients.

C. MARKET POTENTIAL

Ayurveda originated much before allopathy and the latter certainly has its origin in the former. Even today more than 40% of drugs in Allopathy have their origin from plants. Keeping this significant contribution in mind there is a need to understand the original system of medicine and stop calling them as "alternative systems"

Today the world pharmaceutical industry is plagued by increasing cost of new drugs development. This high cost coupled with low success rate and short life span of the drugs led allopathy to take leads from Ayurveda.

Due to the advantage of cheaper prices and negligible side effects. Ayurvedic medicines are preferred over allopathic medicines.

With the general trend towards natural and herbal types of medicines and tonics, the demand for various ayurvedic formulations is increasing at very fast rate.

Due to easy availability of raw materials locally, Ayurvedic medicines are becoming more and more popular among formulators as well as consumers.

In recent times, the demand for Ayurvedic medicine preparations are steadily going up in the country in view of the favourable cost factors as well as the faith of the common men in the ayurvedic system of treatment.

There are at present more than 7000 pharmacies in Indian system of medicine in the country, out of which about 600 are on loan licence and the remaining are having manufacturing facilities. In addition, there are over 3 lakh Ayurved, 30000 Unani and 12000 Sidha registered practitioners in the country

The present market of Indian System of Medicines (ISM) including Ayurvedic drugs is estimated at around Rs.4300 crores. This includes 16 categories of classical ayurvedic medicines and a large number of patent and proprietary ayurvedic medicines. This include oils, pastes, tablets, pills, capsules and liquids

The Ayurvedic products market is growing at about 8% per annum.

D. TECHNICAL ASPECTS

1. INSTALLED CAPACITY

The installed capacity of the unit is estimated based on various formulation preparations. A small unit for the manufacturing of the following formulation items can be set up.

Installed Capacity (MT) per annum		
Arishta/Asavas	KL	150
Churnam	Kgs	3000
Oil ghee preparations	Kgs	15000
Lehams	Kgs	3500
Tablets	lakh nos	150

The capacity is based on the three shift basis, 8 hours per day, for 300 days.

2. PLANT AND MACHINERY

The following items of equipment are required.

IMPORTANT PLANT AND MACHINERY

Machine name
M.S. vat, 1500 kg capacity
M.S. Vat, 750 kg capacity
Wooden vessels with lid for fermentation 500 litre capacity
Earthen pots with lid for bhasma a capacity 2 kgs
Disintegrator with 7.5 H.P. size.22" with sieve of different mesh sizes
Tablet making machine
Bottle filling machine
Bottle sealing machine
M.S. pestle and motor
S.S. mixing vessel with stirrer 200 litre capacity
Distilling unit 500 litre cap. Electrically heated fitted with pipeline made of stainless steel AISI316:12 KW
Water treatment plant 100 litres capacity
Filtering unit fitted with paper and cloth
Earthen vet
Weighing scale 100 kg capacity
Weighing scale 10 kg capacity
Cane bamboo basket big size with covers
Glass jars with stopper 25 litres capacity
Glass jars with lid 2 kg capacity

S.S. vessel covered caps. 100 litres
Air dryer with 12 trays with 6.5 HP motor
Bottle washing machine
Bottle dryer
Aluminium container for storage of powder etc.
Testing equipments

The total cost of the plant and machinery is estimated at Rs. 85.00 lakhs.

3. MANUFACTURING PROCESS

The process of manufacturing Ayurvedic medicines involves the following sequence of operations

Ayurvedic medicines are available in the form of powder, tablets, pills, liquid and semi-solid which are classified into following different categories.

1. Arishta & Asava
2. Rasa Rasayan
3. Lauha
4. Vati
5. Churna
6. Avaleha
7. Ghrita
8. Parpati
9. Taila
10. Goggulu

Methods of Preparation

Different products are produced by different methods described in brief as under:

Arishta & Asava For Ashokarishta and Mritasanjivani sura type and fermented to generate alcohol extract of active ingredients. The fermented and extracted products are distilled and bottled.

Rasayans For Lakhi Bilas Ras the minerals like abrak (mica), swarna (gold), rajat (silver), tamra (copper), gandhak (sulphur) etc. are heated in earthen pot to convert into form of bhasma and either powdered in disintegrated or converted in the form of pill, in tablet making machine.

Churna for Sitopaladi Churna or Lavan bhasker churna, the herbs and active ingredient are cleaned, dried and powdered by micropulveriser to fine mesh size.

Aveleh For chyavanprash type products are made by decoction of herbs, like amla (Indian gooseberry) are mixed and boiled with jaggery, sugar, or sugar candy and other herbal extracts. After cooling, honey is added resulting in semisolid product.

4. RAW MATERIAL

Raw materials, different parts of plants drugs from animal origin, minerals, sugar, honey etc. are available indigenously and consumables including packing materials like glass bottles etc.

Normally raw material cost forms about 45 % of the selling price.

5. LAND & BUILDING

Land required- one acre cost Rs.15.00 lakhs

Building area required 3000 sq.ft Cost Rs.24.00 lakhs

6. UTILITIES

Power:

The total power requirement of the unit will be 40 HP. The fuel requirement is 80 litres per day

Water:

Water requirement for processing is about 5000 litres per day.

Man power:

Category	Nos	Monthly salary	Total Salary
Supervisors	3	9000	27000
Skilled	6	7000	42000
Unskilled	9	5000	45000
Assistant	3	6000	18000
		Total	132000
		Add 20%benefits	26400
		Total	158400
		Annually	→ Rs19.01 lakhs

7. IMPLEMENTATION SCHEDULE

If financing arrangement is made available the project can be implemented with in six month's period.

8. ASSUMPTIONS

Installed capacity per annum	Arishta/Asavas	KL	150
	Churnam	Kgs	3000
	Oil	ghee	
	preparations	Kgs	15000
	Lehams	Kgs	3500
	Tablets	lakh nos	150
Capacity utilization-Year -1	60%		
Year-2	70%		
Year-3	80%		
Selling price per unit	Arishta/Asavas	Per litre	85
	Churnam	Per kg	330

	Oil ghee preparations- per kg	145
	Lehams Per kg	170
	Tablets Per piece	1.30

Material cost	45% of the sales value
Consumables per annum-at 100% (Rs. Lakhs)	3% of the sales value
Power and Fuel-100% (Rs.lakhs)	Rs.17.95 lakhs
Wages & salaries -100% (Rs.lakhs)	Rs.19.01 lakhs
Repairs & Maintenance- p.m.	Rs.20000/- per month
Depreciation	Wdv Method
General & administration Expenses per month	Rs.100000/-
Selling expenses	3% on Sales
Interest on term loan and Working capital finance	14% p.a.
Income tax provision	34% on profit

LIST OF MACHINERY SUPPLIERS

Name of the equipment	Name of the supplier
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Mixer	<p>ACE Pack Machines 23, V.N. Industrial Estate Bharathi Colony, Near Athiparasakthi Temple Peelamedu, Coimbatore-641 004</p> <p>Drycon Systems F-14, IInd Main Road, Anna Nagar East Chennai-600 102</p>
Blender	<p>ACE Pack Machines 23, V.N. Industrial Estate Bharathi Colony, Near Athiparasakthi Temple Peelamedu, Coimbatore-641 004</p> <p>Febchem Engineering Works Plot No.A/2, Sector-A, Sanwer Road, Industrial Area Indore-452 003</p>
Centrifuge	<p>Hydrabad Met Chem. Pvt. Ltd., 34, C.I.E., Phase II, Gandhinagar, Opp. IDPL Colony Hyderabad-500 037</p> <p>Spark Engineers Pvt. Ltd., 5/332, State Bank Colony II Salem-636 004</p>

Dryers	<p>The Anup Engineering Ltd., Behind 66 KV Electric Sub Station Odhav Road, Ahmedabad-382 415</p> <p>ATRE Thermal Products Pvt. Ltd., Pushpa Heights, 1st Floor, Bibwewadi Corner, Pune-411 037</p>
Pulveriser	<p>ACE Pack Machines 23, V.N. Industrial Estate Bharathi Colony, Near Athiparasakthi Temple Peelamedu, Coimbatore-641 004</p> <p>Frigmaires Engineers PO Box 16353, 8, Janata Industrial Estate Senapati Bapat Marg Opp Phoenix Mill, Lower Parel (W) Mumbai-400 013</p>

LIST OF RAW MATERIAL SUPPLIERS

Local Dealer in Herbs, Medicinal Plants etc.

FINANCIAL ASPECTS

1. COST OF PROJECT

	[Rs.lakhs]
Land	15.00
Building	24.00
Plant & Machinery	85.00
Technical know how fees	2.00
Other Misc. assets	5.00
Pre-Operative expenses	20.00
Margin for WC	5.11
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	156.11

2. MEANS OF FINANCE

Capital	63.11
Term Loan	93.00
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	156.11

3. COST OF PRODUCTION & PROFITABILITY STATEMENT

		[Rs.lakhs]		
Years		1	2	3
Installed Capacity (MT)				
Arishta/Asavas	KL	150	150	150
Churnam	Kgs	3000	3000	3000
Oil ghee				
preparations	Kgs	15000	15000	15000

Lehams	Kgs	3500	3500	3500
Tablets	lakh nos	150	150	150
Utilisation		60%	70%	80%
Production/Sales (MT)				
Arishta/Asavas	KL	90	105	120
Churnam	Kgs	1800	2100	2400
Oil ghee				
preparations	Kgs	9000	10500	12000
Lehams	Kgs	2100	2450	2800
Tablets	lakh nos	90	105	120
Selling prices				
Arishta/Asavas		85.00		
Churnam		330.00		
Oil ghee preparations		145.00		
Lehams		170.00		
Tablets		1.30		
Arishta/Asavas		76.50	89.25	102.00
Churnam		5.94	6.93	7.92
Oil ghee preparations		13.05	15.225	17.4
Lehams		3.57	4.17	4.76
Tablets		117.00	136.50	156.00
Sales Value (Rs.lakhs)		216.06	252.07	288.08
Raw Materials		97.23	113.43	129.64
Packing materials		6.48	7.56	8.64
Power & fuel		10.77	12.57	14.36
Wages & Salaries		19.01	19.96	20.96
Repairs & Maintenance		2.40	2.64	2.90
Depreciation		13.55	11.54	9.84
Cost of Production		149.44	167.70	186.34
Admin. & General expenses		12.00	12.60	13.23

Selling expenses	6.48	7.56	8.64
Interest on Term Loan	13.02	11.39	8.14
Interest on Working Capital	3.45	3.45	3.45
Total	184.39	202.71	219.80
Profit Before Tax	31.67	49.36	68.28
Provision for tax	10.77	16.78	23.21
Profit After Tax	20.90	32.58	45.06
Add: Depreciation	13.55	11.54	9.84
Cash Accruals	34.45	44.12	54.90

4. WORKING CAPITAL:

	Months Consumptions	Values	%	Margin Amount	Bank Finance
Raw Materials	1.00	8.10	25%	2.03	6.07
Finished goods	0.25	3.11	25%	0.78	2.33
Debtors	1.00	18.01	10%	1.80	16.21
Expenses	1.00	0.50	100%	0.50	0.00
		29.72		5.11	24.61

5. PROFITABILITY RATIOS BASED ON 80% UTILISATION

<u>Profit after Tax</u>	=	<u>45.06</u>	16%
Sales		288.08	
<u>Profit before Interest and Tax</u>	=	<u>79.87</u>	44%
Total Investment		180.72	
<u>Profit after Tax</u>	=	<u>45.06</u>	71%
Promoters Capital		63.11	

6. BREAK EVEN LEVEL

Fixed Cost (FC):

	[Rs.lakhs]
Wages & Salaries	20.96
Repairs & Maintenance	2.90
Depreciation	9.84

Admin. & General expenses	13.23
Interest on TL	8.14
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	55.07
	<hr/>
Profit Before Tax (P)	68.28

$$\text{BEL} = \frac{\text{FC} \times 100}{\text{FC} + \text{P}} = \frac{55.07}{123.35} \times \frac{80}{100} \times 100$$

36% of installed capacity