

## Ayurvedic Medicine Formulations

PRODUCT CODE	: 313201005
QUALITY AND STANDARDS	: As per Ayurvedic Shastra.
PRODUCTION CAPACITY	: a) Capacity 1. Ashokarishta 3000 Bottles 2. Laxmibilas Ras (N) 200 Kgs. 3. Bhaskar Lavan 6000 Kgs. 4. Sitopaladi Churna 3000 Kgs. 5. Chyavan Prash 3000 Kgs. 6. Mritasanjivani 3000 Lts. 7. Gandhkadi Malham 150 Kgs. (b) Value: Rs 39,30,000
MONTH AND YEAR OF PREPARATION	: January, 2003
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### INTRODUCTION

Ayurvedic system of medicine is as old as the Vedic age. Now-a-days people give preference to the Ayurvedic medicines as the allopathic medicines are costlier and have side effects. Ayurvedic medicines are based on plants, animals extract and minerals both in single ingredient drugs and compound formulations, however, Ayurveda does not rule out any substances from being used as a potential source of medicine.

Ayurvedic compound formulations are mainly divided into two groups viz. (1) Kasthausadhi (predominantly plant drugs) and (2). Rasausadhi (predominantly metals and minerals).

There are several categories of Kasthausadhi formulations such as Asavaristra, Avleha, Grafa Churena, Taila etc. and of Rasausadhis such as Bhasma, Pisti, Lauha, Kapibadkva, Rasayana etc.

The Ayurvedic drugs are derived from vegetable sources from the various parts of the plant like root, leaf, flower, fruit extrude or plant as a whole.

There are about 21 varieties of compound formulations in which some of the single drugs of animal origin (52 Nos). Mineral origin (55 Nos.) and plant origin (351 Nos.) are used. There details of the single drugs and other particulars can be had from the Ayurvedic formulary of India, published by Govt. of India, Ministry of Health and Family Welfare.

## MARKET POTENTIAL

There is more recognition for non-allopathic system of medicines in the country now than the past few decades. The concept of alternative system of treatment notably herbal and Ayurvedic medicines therapy is gaining ground and attracting attention worldwide. There is more and more scientific research being conducted in our country for treatment of various diseases by Ayurvedic and herbal therapy. A large number of diseases have Ayurvedic treatment much superior to the other system of medicines and this has been recognized world over.

Thus Ayurvedic medicines/drugs are becoming popular day-by-day and demand for its usage is increasing not only in the country but also worldwide the inherent quality of Ayurvedic treatment of having negligible side/after effects, has made great potential for its production. A large number of medicinal plants, herbs, shrubs etc. are available in our country in the hilly/forest regions. In order to boost the production of Ayurvedic/herbal drugs, Govt. of India has also set up a Board namely Indian system of Medicine and Homeopathy to encourage production of Ayurvedic medicines specially in the regions where basic raw materials are available in plenty. Thus there is a great potential for Ayurvedic medicines not only in the country but for export purpose also.

## BASIS AND PRESUMPTIONS

1. The project is based on single shift basis and 300 working days in a year.
2. Cost of a machinery and equipment indicated in the profile

refer to a particular make and prices are approximate to those prevailing at the time of preparation of project profile.

3. Depreciation on machinery and equipment has been taken @ 10% of the cost of machinery and equipment.
4. Break-even point has been calculated at the full capacity utilization.
5. The margin money has been taken 25% of the total capital investment.
6. Pay back period is seven years from the second year of operation.

## IMPLEMENTATION SCHEDULE

The following steps are involved in the implementation of the project:

Selection of site	1 month
Preparation project profile,	1 month
Registration of the unit form DI/DIC	15 Months
No objection certificate from Pollution Control Board,	15 days
Approach commercial bank	1 month
Installation and commissioning and of machinery and equipment	15 days
Recruitment of staff	1 month
Arrangement of raw materials and packing materials	15 days

Keeping in view the overlaps of the activities, normally 6 to 8 months are required to implementation project.

## TECHNICAL ASPECTS

### Process of Manufacture

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

the following different categories:

Aristha and Asavsya  
 Rasa Rasayan  
 Lauha  
 Bati  
 Churna  
 Avaleha  
 Ghrita  
 Parpati  
 Taila  
 Goggulu

Method of Preparation

#### 1. *Aristha and Asava*

Asavas and Aristhas are made by soaking the herbs either in powder form or in the form of decoction (kasaya) in a solution of sugar or jaggery, as the case may be, for a specific period of time, during which it undergoes a process of fermentation generation alcohol and facilitates the extraction of the active ingredients contained in the herbs.

#### 2. *Rasa Rasayan*

Ayurvedic medicines containing mineral drugs as main ingredients are called Rasa rasayan or Ras-yoga. They are in pill form or in powder form/ forest, minerals such as Anrالا, Swarna, Rajata, Tamra etc. and sulphur impurified state are used to convert bhasma form, called kajjali then other drugs are added in small quantities, mixed well and grounded to form fine powder.

#### 3. *Lauha*

Lauha kalpas are preparation of Loha Bhasma as main ingredient with other drugs. The other active ingredients are made to fine powder and mixed with Loha Bhasma.

#### 4. *Vati or Gutika*

Medicines prepared in the form of tablets or pills are known as vati or gutika, these are made of one or more drugs of plant, animal or mineral origin.

#### 5. *Churna*

Churna is a fine powder form of drugs. All these herbs and other active ingredients are cleaned, dried and powdered together by mechanical means to the fineness of at least 80 mesh.

#### 6. *Avaleha Madak Paak*

Avaleha or lehya is a semi-solid preparation of drugs. These are prepared by the addition of jagger sugar or sugar dandy and boiled with prescribed drug juices decoction, Honey, if required, is added when the preparation is cold and mixed well.

#### 7. *Ghrita*

Ghrita are preparations in which ghee is boiled with prescribed Kasayas (Decoction) and kalkas of drugs according to formulation as per Ayurvedic formulary.

#### 8. *Parpati*

First Kajjali is prepared with purified Mercury and sulphur. Then other drugs as per Ayurvedic Formulae are added and mixed well in grinder. The powder is then heated in iron vessel and melted. This melted material is purified as per Ayurvedic method, cooled and again flakes of medicines are powdered.

#### 9. *Taila*

Tailas are prepared by boiling prescribed kasyas (decoction) and kalkas of drugs in oils according to the

formula prescribed in Ayurvedic formulary.

### 10. Goggulu

Ayurvedic medicines prepared by the exudates, and obtained from the plant *Commiphora mukul*, are known as Goggulu. There are five different varieties of Goggulu in Ayurvedic Shastra but usually two varieties, mahiskasa and kanaka are preferred for medicinal preparation.

Exudates in small pieces are taken in a piece of cloth and boiled in gomutara or Dugdha or Triphala kasayua until the exudates pass into the fluid through the cloth to the maximum. The fluid after filtering is boiled till it forms a mass. After drying, the mass is formed into a paste by adding ghee till it becomes waxy.

### Quality Control and Standards

At present there is no pharmacopial standard on each of the active ingredients of Ayurvedic medicine like allopathic medicine. For standardization and quality control of Ayurvedic drugs, various steps can be followed like physical description, physical tests, pharmacognised techniques etc, to ascertain the species of plant and study their pharmacognostic character for the purpose of identification detection and analyzing the crude drug.

Generally quality of Ayurvedic products is fully dependent on the quality of raw materials and process of manufacture. The quality control process of some Ayurvedic formulations can be contained from 'Pharmacopica Laboratory of India Medicine, near ALTC, Ghaziabad (U.P)'.

The products are to be manufactured as per Indian system of medicines of Ministry of Health.

### Production Capacity

(a) Capacity	
1. Ashkarishta	3000 Bottles
2. Laxmibilas Ras (N)	200 Kgs.
3. Bhaskar Lavan	6000 Kgs.
4. Sitopaladi Churan	3000 Kgs.
5. Chavan Prash	3000 Kgs.
6. Mritasanjivani	3000 Kgs.
7. Gandhkadi Malham	150 Kgs.

(b) Value Rs. 39,30,000

## FINANCIAL ASPECTS

### A. Fixed Capital

(i) Land and Building		(Rs.)
Land 400 Sq. mt. @ Rs 600		2,40,000
Covered Area		6,00,000
Including office and working shed @ 3,000 sq.mt.		8,40,000

### (ii) Machinery and Equipments

Sl. No.	Description	Rate (Rs.)	Qty. (Nos.)	Price (Rs.)
1.	M.S.Vat, 1,500 Kg. Capacity	@15,000	1	15,000
2.	M.S.Vat, 750 Kg. Capacity	@10,000	1	10,000
3.	Fermeter 500 It Cap.	@40,000	1	40,000
4.	Sintered Glass Crucible	@5,000	5	5,000
5.	Disintegrator with 7.5 H.P. size 22" with sieves of different mesh sizes	@30,000	1	30,000
6.	Micro pulverizer with 5 H.P. and 2.5 H.P. Motor	@10,000	1	10,000
7.	Tablet making machine	@15,000	1	15,000
8.	Bottle filling machine	@5,000	1	5,000
9.	Bottle sealing machine	@ 2,000	1	2,000
10.	M.S Pastle and motor	@5,000	1	5,000

Sl. No.	Description	Rate (Rs.)	Qty. (Nos.)	Price (Rs.)
11.	S.S Mixing vessel with motor 200 Litre capacity	@ 20,000	1	20,000
12.	Distillation unit 500 Lt. Cap. Electrically heated fitted with pipeline made of stainless steel AISI 316.12 kW	@ 25,000	1	25,000
13.	Water treatment plant 100 liters cap	@ 40,000	1	40,000
14.	Filtering unit fitted with paper and cloth	@ 6,000	1	6,000
15.	Furnace	@ 5,000	2	10,000
16.	Weighing scale 100 Kg. cap.	@ 10,000	1	10,000
17.	Weighing scale 10 Kg. Cap	@ 5,000	1	5,000
18.	Glass jars with stopper 25 liters. Cap	@100	20	2,000
19.	Glass jars with lid 3 kg. Cap	@25	20	500
20.	Vessel covered 100 Litres	@1,000	5	5,000
21.	Air oven with 12 trays with 2.5 HP motor	@25,000	1	25,000
22.	Bottle washing machine	@15,000	1	15,000
23.	Bottle dryer	@10,000	1	10,000
24.	Aluminium container for storage of powder etc.	@ 200	25	5,000
25.	Testing equipments			30,000
26.	Misc. items		LS	20,000
27.	Electrification and Installation @ 10%			38,550
28.	Furniture and office equipment			30,000
29.	Pre-operative expenses			25,000
	<b>Total</b>			<b>4,79,050</b>

## B. Working Capital (per month)

### (i) Staff and Labour

Sl. No.	Description	Nos.	Salary (Rs.)	Total (Rs.)
1.	Manager-Manufacturing Chemist	1	8,000	8,000
2.	Analytical Chemist	1	6,000	6,000

Sl. No.	Description	Nos.	Salary (Rs.)	Total (Rs.)
3.	Accountant-cum-typist	1	4,000	4,000
4.	Clerk-cum-Typist	1	3,000	3,000
5.	Skilled workers	5	3,000	15,000
6.	Unskilled workers	5	2,500	12,500
7.	Watchman	1	2500	25,00
8.	Sales representative	1	4,000	4,000
	Perquisites @ 15%			8,250
	<b>Total</b>			<b>63,250</b>

### (ii) Raw Materials (per month)

Particulars	Ind. Imp.	Qty.	Rate (Rs.)	Value (Rs.)
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.	Ind.	-	-	1,75,000

### (iii) Utilities

	(Rs.)
1. Power	4,000
2. Fuel	4,000
3. Water	2,000
<b>Total</b>	<b>10,000</b>

### (iv) Other Contingent Expenses

	(Rs.)
1. Postage/Stationery	1,500
2. Travelling expenses and transport charges	10,000
3. Repair/Maintenance.	2,000
4. Sales Expenses	2,500
5. Advertisement/Publicity	5,000
6. Insurance	750
7. Consumable Stores	1,500
<b>Total</b>	<b>23,250</b>

### (vi) Working Capital (per month)

	(Rs.)
1. Staff and labour	63,250
2. Raw material	1,75,000
3. Utilities	10,000
4. Other contingent expenses	23,250
<b>Total</b>	<b>2,71,500</b>

### (vii) Working Capital (for 3 Months) Rs.8,14,500

## Total Capital Investment

(i) Fixed capital	Rs. 13,19,050
(ii) Working capital (for 3 months)	Rs. 8,14,500
<b>Total</b>	<b>Rs. 21,33,550</b>

## FINANCIAL ANALYSIS

<b>(1) Cost of Production (per year)</b>	<b>(Rs.)</b>
(i) Total recurring expenditure	32,58,000
(ii) Depreciation on machinery and equipment @ 10%	38,550
(iii) Depreciation on furniture office 20%	6,000
(iv) Interest on total investment @ 14%	2,98,700
<b>Total</b>	<b>36,01,250</b>
or Say	36,00,200

<b>(2) Total Sale (per annum)</b>	<b>(Rs.)</b>
1. Ashokarishta 3000 Bottles 750 ml. @4	12,00,000
2. Lakhibilas Ras (N) 200 Kgs. 10 gm. @20	4,00,000
3. Bhaskarlavan 6000 Kgs. 100 gm. @15	9,00,000
4. Sitopaladi Churan 3000 Kgs. 100 gm. @20	6,00,000
5. Chyavan Prash 3000 Kgs. 100 gm. @15	4,50,000
6. Mritasanjivani 3000 Kgs. 300 gm. @20	2,00,000
7. Gandhkadi Malham 150 Kgs. 10 gm. @10	1,00,000
<b>Total</b>	<b>38,50,000</b>

(3) Profit (per annum)	Rs. 38,50,000 – 36,00,000	Rs. 2,50,000
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### (4) Rate of Return

$$= \frac{\text{Net profit per year} \times 100}{\text{Total investment}}$$

$$= \frac{2,50,000 \times 100}{21,34,000}$$

$$= 15.5\%$$

### (5) Net Profit Ratio

$$= \frac{\text{Profit per year} \times 100}{\text{Turn over per year}}$$

$$= \frac{2,50,000 \times 100}{38,50,000}$$

$$= 84\%$$

### (6) Break-even Point

<b>(i) Fixed cost</b>	<b>(Rs.)</b>
Depreciation on machinery and equipment @ 10%	38,550
Furniture and office equipment @ 20%	6,000
Interest 14% p.a.	2,98,700
Staff and labour @ 40%	3,03,600
Miscellaneous @ 40%	1,11,600
<b>Total</b>	<b>7,58,450</b>

### (ii) B.E.P.

$$= \frac{\text{F.C.} \times 100}{\text{F.C.} + \text{Profit}}$$

$$= \frac{7,58,450 \times 100}{7,58,450 + 3,300,000}$$

$$= \frac{7,58,450 \times 100}{1088450}$$

$$= 69.68\%$$

## Addresses of Raw Material and Plant Machinery Suppliers

1. M/s. Modern Mechanical Works  
1501, Qsim Jon Street,  
Delhi-110006.
2. M/s. Associated Instrument  
Manufacturers Pvt. Ltd.  
26, Asaf Ali Road,  
New Delhi-110006.
3. M/s. Amar Engineering works  
W-28, Raja Garden,  
New Delhi-110027.
4. M/s. Emkay (India) Trading Co.  
286, Garhiaya, Jama Masjid,  
New Delhi-110006.
5. M/s. Rank and Co.  
A-95/3, Wazirpur Industrial Estate,  
New Delhi-110052.
6. M/s. Juta Biotech  
215, Syndicate House,  
3, Old Rohtak Road, Inderlok,  
Delhi-110035.



7. M/s. International Machinery Manufacturing Co.  
3259, Farhat Ullah Street,  
Kucha Pandit,  
Lal Kuan,  
Delhi-110006
8. M/s. Brintex Sales Corporation  
Electrical Division,  
55, Tagore Garden,  
New Delhi-110027
9. M/s. Harrisons Pharma Machinery (P) Ltd.  
4648/21, Shedumal Building,  
Darya Ganj,  
New Delhi-110002
10. M/s. Techmac Engineering Works  
310, Usha Kiran Building,  
Commercial Complex,  
Azadpur, Delhi-110033.
11. M/s. Bio Products Pvt. Ltd.  
221, Patparganj Industrial Area,  
Delhi.
12. M/s. Engineers Syndicate  
A-2, F.F. Ring Road,  
Rajouri Garden,  
New Delhi-110027.
13. M/s. Co-operative Drug Factory of  
Ranikhet  
Ranikhet,  
Uttanchal

#### Material Suppliers

Local Dealer in Herbs,  
Medicinal Plants etc.