

## Ayurvedic Medicine Formulations

Product Code	313201005
Quality and Standards	As per Ayurvedic Shastra. a) Capacity 1. Ashokarishta 3000 Bottles 2. Laxmibilas Ras (N) 200 Kgs. 3. Bhaskar Lavan 6000 Kgs.
Production Capacity: Qty	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
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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 nonallopathic 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**

- The project is based on two shift basis and 300 working days in a year.
- 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.
- Depreciation on machinery and equipment has been taken @ 10% of the cost of machinery and equipment.
- Break-even point has been calculated at the full capacity utilization.
- The margin money has been taken 25% of the total capital investment.

### **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	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 Asavsas
- Rasa Rasayan
- Lauha
- Bati
- Churna
- Avaleha
- Ghrita
- Parpati
- Taila
- Guggulu

### **Method of Preparation**

#### **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.

#### **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 Anrala, Swarna, Rajata, Tamra etc. and sulphur impurified state are used to convert bhasma form, called kajuali then other drugs are added in small quantities, mixed well and grounded to form fine powder.

#### **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.

#### **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.

#### **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.

### **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.

### **Ghrita**

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

### **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.

### **Taila**

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

### **Goggulu**

Ayurvedic medicines prepared by the exudates, and obtained from the plant commiphara 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, pharmacoginised techniques etc, to ascertain the species of plant and study their pharmacoginostic 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 (per annum)**

#### **Capacity**

Ashkarishta	6000 Bottles
Laxmibilas Ras (N)	400 Kgs.
Bhaskar Lavan	12000 Kgs.
Sitopaladi Churan	6000 Kgs.
Chavan Prash	6000 Kgs.
Mritasanjivani	6000 Kgs.
Gandhkadi Malham	600 Kgs.
Value	Rs. 2,64,36,000

### **Financial Aspects**

#### **Fixed Capital**

##### **(i) Land and Building**

	Amount (Rs.)
Land 1000 Sq. mt. @ Rs 4,000	40,00,000
Covered Area 600 Sq. Mtr @ Rs.10000	60,00,000
<b>Total</b>	<b>1,00,00,000</b>

##### **(ii) Machinery and Equipments**

Sl. No.	Description	Rate (Rs.)	Qty. (Nos.)	Price (Rs.)
1.	S.S.Vat, 1,500 Kg. Capacity	1,00,000	1	1,00,000
2	S.S.Vat, 750 Kg. Capacity	70,000	1	70,000
3	Fermenter 500 Iit Cap.	60,000	1	60,000
4	Sintered Glass Crucible	10,000	10	1,00,000
5	Disintegrator with 7.5 H.P. size 22" with sieves of different mesh sizes	2,00,000	1	2,00,000

6	Micro pulverizer with 5 H.P. and 2.5 H.P. Motor	1,50,000	1	1,50,000
7	Tablet making machine	1,00,000	1	1,00,000
8	Bottle filling machine	5,00,000	1	5,00,000
9	Bottle sealing machine	20,000	1	20,000
10	S.S Pastle and motor	20,000	1	20,000
11	S.S Mixing vessel with motor 200 Litre capacity	1,50,000	1	1,50,000
12	Distillation unit 500 Lt. Cap. Electrically heated fitted with pipeline made of stainless steel AISI 316.12 kW	5,00,000	1	5,00,000
13	Water treatment plant 100 liters cap	3,00,000	1	3,00,000
14	Filtering unit fitted with paper and cloth	50,000	1	50,000
15	Furnace	50,000	2	1,00,000
16	Weighing scale 100 Kg. cap.	40,000	1	40,000
17	Weighing scale 10 Kg. Cap	35,000	1	35,000
18	Glass jars with stopper 25 liters. Cap	1,000	20	20,000
19	Glass jars with lid 3 kg. Cap	500	20	10,000
20	Vessel covered 100 Litres	10,000	5	50,000
21	Air oven with 12 trays with 2.5 HP motor	50,000	1	50,000
22	Bottle washing machine	1,50,000	1	1,50,000
23	Bottle dryer	1,50,000	1	2,50,000
24	Aluminium container for storage of powder etc.	3,000	50	1,50,000
25	Testing equipments			8,50,000
26	Water, ETP, Clean room, generator		LS	15,00,000
27	Electrification and Installation @ 10%			6,42,000
28	Furniture and office equipment			5,00,000
29	Pre-operative expenses			5,00,000
<b>Total</b>				<b>71,67,000</b>
				<b>0</b>

## B. Working Capital (per month)

### (i) Staff and Labour

Sl. No.	Designation	No.	Salary (Rs.)	Total (Rs.)
1	Manager-Manufacturing Chemist	1	20,000	20,000
2	Analytical Chemist	2	12,000	24,000
3	Accountant-cum-typist	2	8,000	16,000
4	Clerk-cum-Typist	2	5,000	10,000
5	Skilled workers	10	4,000	40,000
6	Unskilled workers	12	3,500	42,000
7	Watchman	4	4,000	16,000
8	Sales representative	1	12,000	12,000
Perquisites @ 15%				40,000
<b>Total</b>				<b>2,20,000</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.	-	-	10,00,000

### (iii) Utilities

	(Rs.)
Power	25,000
Fuel	15,000
Water	5,000
<b>Total</b>	<b>45,000</b>

**(iv) Other Contingent Expenses**

Particulars	Total (Rs.)
Postage/Stationery	3,000
Travelling expenses and transport charges	50,000
Repair/Maintenance.	12,000
Sales Expenses	15,000
Advertisement/Publicity	25,000
Insurance	20,000
Consumable Stores	15,000
<b>Total</b>	<b>1,40,000</b>

**(v) Working Capital (per month)**

	(Rs.)
Staff and labour	2,20,000
Raw material	10,00,000
Utilities	45,000
Other contingent expenses	1,40,000
<b>Total</b>	<b>14,05,000</b>
(vi) Working Capital (for 3 Months)	42,15,000

**C. Total Capital Investment**

Fixed capital	Rs. 1,71,67,000
Working capital (for 3 months)	Rs. 42,15,000
<b>Total</b>	<b>Rs. 2,13,82,000</b>



## Financial Analysis

Cost of Production (per annum)				(Rs)
Total recurring expenditure				1,68,60,000
Depreciation on machinery and equipment @ 10%				6,67,000
Depreciation on furniture office 20%				1,00,000
Interest on total investment @ 12%				25,66,000
<b>Total</b>				<b>2,01,93,000</b>
<b>Or Say</b>				<b>2,01,93,000</b>
Total Sale (per annum)				(Rs)
Ashokarishta	6000 Bottles	750 ml.	@60	36,000
Lakhibilas Ras (N)	400 Kgs.	10 gm.	@60	24,00,000
Bhaskarlavan	12000 Kgs.	100 gm.	@90	1,08,00,000
Sitopaladi Churan	6000 Kgs.	100 gm.	@90	54,00,000
Chyavan Prash	6000 Kgs.	100 gm.	@60	36,00,000
Mritasanjivani	6000 Kgs.	300 gm.	@120	24,00,000
Gandhkadi Malham	300 Kgs.	10 gm.	@60	18,00,000
<b>Total</b>				<b>2,64,36,000</b>

## Profit (per annum)

Rs. 2,64,36,000 - Rs. 2,01,93,000 = Rs. 62,43,000

## Rate of Return

Net profit per year ----- × 100
Total investment
= Rs. 62,43,000
----- × 100
2,13,82,000
29.2%

## Net Profit Ratio

Profit per year ----- × 100
Turn over per year
= Rs. 62,43,000
2,64,36,000
23.6%

## Break-even Point

Fixed Cost	(Rs)
Depreciation on machinery and equipment @ 10%	6,67,000
Furniture and office equipment @ 20%	1,00,000
Interest 12% p.a.	25,66,000
Staff and labour @ 40%	10,56,000
Miscellaneous @ 40%	6,72,000
<b>Total</b>	<b>50,61,000</b>

B.E.P

Fixed cost × 100  
-----  
Fixed cost + profit

	$= \text{Rs. } 50,61,000 \times 100$ $\text{-----}$ $\text{Rs. } 5061000 + 62,43,000$
	$\text{Rs. } 50,61,000$ $\text{-----} \times 100$ $\text{Rs. } 1,13,09,000$
	44.7%

### **Addresses of Raw Material and Plant Machinery Suppliers**

- M/s. Modern Mechanical Works  
1501, Qsim Jon Street,  
Delhi-110006.
- M/s. Associated Instrument Manufacturers Pvt. Ltd.  
26, Asaf Ali Road,  
New Delhi-110006.
- M/s. Amar Engineering works  
W-28, Raja Garden,  
New Delhi-110027.
- M/s. Emkay (India) Trading Co.  
286, Garhiaya, Jama Masjid,  
New Delhi-110006.
- M/s. Rank and Co.  
A-95/3, Wazirpur Industrial Estate,  
New Delhi-110052.
- M/s. Juta Biotech  
215, Syndicate House,  
3, Old Rohtak Road, Inderlok,  
Delhi-110035.
- M/s. International Machinery Manufacturing Co.  
3259, Farhat Ullah Street,  
Kucha Pandit,  
Lal Kuan,  
Delhi-110006
- M/s. Brintex Sales Corporation  
Electrical Division,  
55, Tagore Garden,  
New Delhi-110027

- M/s. Harrisons Pharma Machinery (P) Ltd.  
4648/21, Shedumal Building,  
Darya Ganj,  
New Delhi-110002
- M/s. Techmac Engineering Works  
310, Usha Kiran Building,  
Commercial Complex,  
Azadpur, Delhi-110033.
- M/s. Bio Products Pvt. Ltd.  
221, Patparganj Industrial Area,  
Delhi.
- M/s. Engineers Syndicate  
A-2, F.F. Ring Road,  
Rajouri Garden,  
New Delhi-110027.
- M/s. Co-operative Drug Factory of  
Ranikhet  
Ranikhet,  
Uttanchal