PROJECT REPORT FOR

HERBAL NURSERY GARDEN

Prepared for

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Project Location:
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C O N T E N T

CHAPTER- I

PROJECT DESCRIPTION

Introduction :

People have used herbs for their culinary and healing properties for centuries. Today, herbs remain as popular as ever. Cooks love the unique flavors that herbs lend to all kinds of food and drink. Herbalists treasure the healing qualities of certain flowers, leaves and roots. Herbal crafters preserve the beauty and fragrance of flowers and leaves in potpourri, wreaths, sachets and dried arrangements. And gardeners value herbs for all their excellent qualities, including their vigor, low maintenance and natural resistance to pests.

When most of us think of herbs, we picture the common kitchen seasonings, such as basil, rosemary, sage and thyme. Yet, an herb is any plant that is considered useful. For instance, the leaves, roots, seeds, stems or flowers of an herb might be important as a source of flavoring, medicine, fragrance, dye or some other product. It's not all about function. Some gardeners grow herbs simply because they are beautiful.

Most herbs thrive in typical garden soil, as long as it has good drainage. However, some herbs, such as rosemary, lavender and bay, are woody plants native to the Mediterranean. These herbs prefer gritty, sharply drained soil. Good drainage is crucial because the roots of Mediterranean natives are likely to rot in moist soil. If your garden soil is heavy, grow these herbs in raised beds or planters.

Most herbs thrive in full sun (six or more hours of direct sunlight per day). If you have a garden that receives less sun, choose herbs that don't need as much.

Suitable soil: For growing herbs, the soil should be drained well and be in such a way that it crumbles easily. Because of this, the roots will be able to get sufficient water without rotting the roots and at the same time strengthening them. If the soil is not proper in any area of the farm, then there should be some changes made by adding soil amendments so that there would be good and healthy growth of herbs. If the herbs are grown outdoors, then the soil should be checked before the farming starts. All the vegetation should be removed and the pH levels of the soil should be analyzed. The farmer should also be able to analyze the amount of fertilizers which will be needed for the growth of the herbs. In the commercial farms, in order to remove the diseases of crops, pests, and weeds which are derived from the common soil, sterilization of the soil is done additionally. Crop rotation is another agricultural technique which would decrease the chances of diseases which occur to common crops

Pest and disease control

Options for controlling pests of the herb farm are predator insects and insecticides. Some of the known predatory insects used on the herb farm are: ladybugs, aphid parasites, lacewings, mantids, and predatory mites. Insecticide use depends on the type of pest present on the herb farm. Common pests are aphids, whiteflies, and fungus gnats, each requiring a different type of pesticide and having different levels of difficulty to manage. Environmental management plans for pests include the use of a good insect screen, air movement, and ventilation: methods that

reduce the stress on the plant. Common herb diseases are: botrytis, mildew, viruses, rusts, and root disease. Successful management of plant diseases include environmental controls similar to that of the pest management plan. Chemical means are determined based on the type of plant disease present in the herb.

Seeds and cutting/types of propagation

Herb plants can be started from seed or purchased as a seedling. Common herbs grown from seed are basil, flat and curly leaved parsley, chives, dill, sage, thyme, rosemary, cilantro. Herbs can also be grown via vegetative means, rooting cuttings, division of the plant, bulbs, or tissue culture. Rooting cuttings works best with soft stemmed herbs such as mint, lemon balm, basil and stevia. The advantage of growing via a vegetative process gives you a plant that is exactly identical to the parent plant.

Equipment requirements –The basic requirements for a nursery operation include: irrigation equipment ,field equipment such as cropping equipment, sprayers for control of weeds, insects and diseases.

Irrigation – These practices have an effect on plant growth and timing. Plants require an adequate supply of water at all stages of growth. Factors such as type of crop (container or field crop), stage of development, temperature, sunlight, air movement, soil or media, and drainage all influence the water requirements for nursery crops. Growers need to determine the best irrigation system and irrigation practices for their particular situation.

Types of Herbs

Medicinal Herbs Farming: The medicinal herb farming has been increasing in India in a rapid way. These are the cash crops which are considered very profitable and also the ones which are most valued. Medicinal herbs also have a very good opportunity for the exports. The medicinal herbal farming is the one which is a very good opportunity for the farmers in recent times. This farming is also termed as Commercial cash crop cultivation. Recent researches in medicine have proved that the herbs can be used as an alternative to medicines which are expensive and also come with side effects. As most of the population is wanting to lead a healthy life, the demand for the herbs which are medicinal is growing day by day.

Below are few medicinal herbs which are grown commercially:

• **Aloe Vera**: This is the medicinal herb which has the highest value. It is used in medicines, beverages and also cosmetics. The aloe vera farming can be started with less investment.

• **Ashwagandha:** This is one of the medicinal herbs which is mostly grown in dry regions and also the subtropical ones. This is the one which is also considered as the most valued medicinal herbs and is used for the cure of many diseases related to nerves

• **Brahmi:** This is the herb which is traditional and also the one which has a high medicinal value. The leaves are oval shaped and this plant will have flowers which are white in color and blossom all around the year.

• **Amla:** This is a popular medicinal herb in India because of its medicinal value which is high. This herb is mostly preferred in medicinal and cosmetics industries. As this plant can be grown in tropical regions, this can be grown in light soils and also in the soils which are slightly heavier.

• **Calendula:** This can be grown easily and has high medicinal values. This can be grown even in the land which is poor and the sunlight cannot affect the growth of the plant. Watering should be done regularly.

• **Basil or Tulsi:** This is considered as the Queen of herbs because of its medicinal properties. This can be grown in any type of environmental conditions.

• **Daru Haridra:** This is a very important medicine in Ayurveda. This is used in the production of juice and also in the commercial business of cosmetics. To grow this plant, the soil which is light, medium and heavy can be preferred. This can also be grown in soils which are very poor in the levels of nutrition.

• **Jatropha**: This is the best plant among all the oilseed plants. This plant has got the best medicinal values and this can be grown in the land which is wasted and not in use. This can be grown even in areas which have very less rainfall and also the drought ones.

• **Lemon Balm:** This plant which has leaves which have a strong scent and can be used to make herbal teas which would boost the immune system and improve digestion.

• **Marsh Mallow:** This can be used as a treatment for skin ailments, cough and also it can improve the functioning of the digestive system.

Perennial Herbs Farming: Perennial plants are the ones which live for at least three years. The foliage which is at the top will go back to the ground every winter and then grows again in the next summer from the roots which are existing at present. Perennial herbs are the herbs which are grown from the herbaceous plants which can live for more than two seasons. For the farmers which are growing herbs and vegetables, farming of perennial plants would be more time saving and also effort saving with great profits too. Though these plants do not survive in temperatures, which are low, there are few types of perennial plants which can survive in winters too. When you are considering to grow perennial plants, you should select a space which would be permanent to grow them.

Examples : Asparagus, Coriander, Chives:,Mint: Rosemary,Oregano Tarragon etc.

Biennial Herbs Farming: The term biennial refers to the longevity of the plant. The plants which are grown annually will live only for one season and their entire life cycle will be completed in that time. The seeds which are dormant will go to the next season of growing. These plants are the ones which take almost two years to complete their life cycle. The plant will be growing leaves, roots and stems in the first year and in winter, it reaches the dormancy period. The stems will be small and the leaves will be very low which form a rosette. Before the flowering starts, the biennial plants will treat a cold treatment. In the next summer, the stem grows well and the plant starts flowering. It also produces a good number of fruits and seeds before death. If the environmental conditions are extreme, then there is a chance that the plant completes in life cycle quickly.

Examples :Parsley, Caraway,Evening primrose,Foxglove, Angelica. Etc.

Culinary Herbs Farming: These herbs will have the properties which are aromatic and savor. These are used as flavors in food and also for the purpose of garnishing. Most of these herbs are annual and few of them live for many years. The culinary plants which have long life will also serve as plants which are pest repellant, companion plants, etc. The culinary herbs will need full sun. These are tolerant to drought after their establishment.

Examples : Bay Tree, Parsley, Peppermint, etc.

Aromatic Herbs Farming: Aromatic herbs which are used in cooking will enhance the taste of the food and the dishes will be converted into delicacies. These herbs are used to season the stews and add extra flavor to the recipe. These herbs are mostly used in the foods of the Mediterranean because of their aromatic, medicinal values which have come with the seasoning qualities in cooking and have the ability to convert our dishes as delicacies. The aromatic herbs are also used to treat the nose in terms of cold. These herbs are also used in the preparation of incense. The oils which are extracted from the aromatic herbs are used in the preparation of fragrances. The surveys proved that few smells when inhaled give therapeutic effects by calming the mind and inducing sleep. Many scents are made by taking the oils which are essential from the aromatic herbs.

• Chamomile: This is an herb which smells like fresh apples and if anyone inhales it, it calms the nerves. This is popular as sleep herbal tea.

Other Aromatic herbs are:

Lemon Grass, sage , Mint, Basil or Tulsi, Lavender, Rosemary, Sweet Basil.

SWOT ANALYSIS:

The project strength weaknesses, opportunities and threats (SWOT) should be work out based on the present situation, scope for the project and weaknesses, in the context of competition, Government policies etc.
This analysis would help the promoters in deciding his strategy and approach for running this venture on commercial lines.

STRENGTHS:

1. Good quality mother stock and all required inputs available in Tamil Nadu.
2. Adequate labour and IPM facilities are available at site.
3. The water, electricity,and road facilities are available at the site.
4. Climate at the site is conducive for production of seedlings.

WEAKNESS:

1. Fixed price rate is not available.
2. Financial status is not good.
3. Care of mother plants is necessary
4. Adverse climatic condition which results in affect on nursery
5. The younger seedling is susceptible to strong sun and low temperature

OPPORTUNITY:

Multiplication of elite clones and promising varieties of proposed crops, Marketing of plants and planting materials is the most crucial and important part of the nursery business.
The production of high quality true to the type and attractive planting materials is absolutely necessary.
Seedlings or plant must be free from pests and diseases, vigorously growing and bright and colourful. then farmers preferring the use of seedlings from shade net nurseries instead of their own prepared seedlings.

THREATS:

Plant growth, development and quality of fruit plants in nursery are largely influenced by the environmental conditions, soil factors, irrigation water and plant nutrition.

Disturbance in plant metabolic activities from an excess or deficit of environmental conditions like light, temperature, aeration, mismanagement of canal irrigation as well as brackish groundwater irrigation, diminishing use of organic manures, unbalanced NPK fertiliser applications etc are resulting in salinity, nutritional imbalances and nutritional disorders.

MARKET POTENTIAL

India's domestic herbal industry is represented by 8610 licensed herbal units, thousands of cottage level unregulated herbal units and millions of folk healers and household level users of thousands of herbal raw drugs on one hand and a complex trade web on the other that channels the herbal raw drugs from various supply sources to the end users. Thus, to understand the Marketing and trade of the sector, a focus on Demand and Supply of medicinal plants is very important. The canvas portraying demand and supply of medicinal plants in the country is itself very complex.

India has very strong traditional health care practices that are represented by the classical systems of medicine like Ayurveda, Siddha, Unani, and Swa-rigpa on one hand, and by a very diverse area-specific and community-specific folk healthcare practices on the other. The major commonality of the Indian classical and the folk health care traditions is their dependence upon the raw material derived from a large diversity of plant species, which is estimated to be about 6,500.

The first serious attempt at national level to assess the demand and supply of medicinal plants in the country was made by the National Medicinal Plant Board during 2001-02, when it commissioned a study through CERPA to understand annual trade levels of selected 162 medicinal plant species. The NMPB, thereafter in 2006-07 commissioned a national study to assess demand and supply of medicinal plants in India. That study, carried out by FRLHT, for the first time brought various intricacies in the herbal sector to the fore and added to the understanding of the subject related to the diversity of raw drug entities in trade, their botanical correlation, volume of annual trade and supply sources.

CHAPTER-II
ECONOMICS OF THE PROJECT

A. PROJECT PROFILE (Financial)

Sr. No.	PARAMETERS	VALUE
1	Product	Herbal Plants
2	Area in acre	0.10
3	Cost of the project (Rs.)	5,00,000
4	Bank loan (Rs.)	3,75,000
5	Own Contribution(Rs.)	1,25,000
6	Financial Indicators	
	BC R	1.18 :1
	N P W 15% (Rs.)	4,33,037
	I R R %	51.97
	Average DSCR	2.7
7	Interest Rate (% per annum)	12
8	Repayment	5 Years

CHAPTER- I
HIGHLIGHTS OF THE PROJECT REPORT

B. BASIS & PRESUMPTIONS

Sr. No.	Particular	Unit	Quantity
I.	**Techno-economic parameters**		
	Rate of Interest for bank loan	%	12
	Payback period	years	5
II.	**Expenditure norms**		
	Shed net House	Rs./Sq.m.	200
	Cost of manures and fertilizers (including micronutrients, etc.) & application	Rs./ Plant	6,000
	Garden Equipments for maintenance- Spades, forks, knives, Khurpis, secateurs etc	Rs. In Lumpsum	1,15,000
	Planting material	Rs./ Plant	20
	Drip Irrigation	Rs. In Lumpsum	40,000
	Water Distribution	Rs. In Lumpsum	10,000
	Advertising & Marketing	Rs. Per Months	2,000
	Overhead (Electricity, Water etc.)	Rs. Per Months	2,500
	Salary of Labour	Rs. Per Months	3,000
III.	**Income norms**		
1	Sale prize of Herbal plants	Rs./seedling	40
IV.	**Other**		
1	Repayment period 5 years.		
2	Tax on income ignored.		
3	Promoters share includes self-contribution plus loan from friends and relatives.		
4	There is no change in Government policies and interest rates in next 5 years.		
5	Subsidy receives @44 % from ACABC scheme treated as F.D. in bank @ 6%. This amount of subsidy is used for repayment of loan.		

C. TOTAL COST OF PROJECT

SR. NO.	PARTICULAR	UNIT	UNIT RATE(Rs.)	QUANTITY	AMOUNT(Rs.)
1.	**Land & Site Development**				
i)	Land (0.10)	-	-	-	Own
ii)	Land Levelling & Development	Acre (0.10)			10,000
iii)	Fencing	Running Mtrs.	150	300	25,000
	SUB TOTAL – 1				**35,000**
2.	**Irrigation**				
i)	Drip Irrigation	No	1	40000	40,000
iii)	Cost of Water Distribution	Lumpsum			10,000
	SUB TOTAL – 2				**50,000**
3.	**Initial Cost of Plantation**				
i)	Purchase of Planting Material	Nos	20	10000	2,00,000
	SUB TOTAL – 3				**2,00,000**
4.	**Buildings**				
i)	Shed net house	Sq.ft	500	200	1,00,000
	SUB TOTAL – 4				**1,00,000**
5.	**Equipments**				
i)	Cost of Sprayer & other equipments like hose pipe, spades, forks, knives, khurpis, secateurs etc.	Lumpsum			1,15,000
	SUB TOTAL – 5				**1,15,000**
	GRAND TOTAL				**5,00,000**

D. MEANS OF FINANCE

Sr. No.	Particular	Unit	Quantity	Amount in Rs.
1	Term loan	%	75	3,75,000
2	Own contribution	%	25	1,25,000
			TOTAL	**5,00,000**
3	Subsidy Entitlement Under Agri Clinics & Agri Business Centres scheme By NABARD @ 44%			**2,20,000**

E. PROJECTED PROFITABILITY

Sr. No.	Particular	Unit	Unit rate in Rs.	Quantity	I year	II year	III year	IV year	V year
I.	**Income**								
	Capacity				60	65	70	75	80
a.	Sales of Harbal Plants	Nos.	40	16,000	6,40,000	7,04,000	7,74,400	8,51,840	9,37,024
	(Selling by Online mode 25 % of total sales by using Flipkart, Amazon, etc.)								
b.	Interest on subsidy @ 6%				13,200	13,200	13,200	13,200	
c.	Subsidy				0	0	0	0	2,20,000
				TOTAL (A)	**6,53,200**	**7,17,200**	**7,87,600**	**8,65,040**	**11,57,024**
II.	**Expenditure**								
a.	Cost of Planting Material	Nos.	20	15,000	3,00,000	3,30,000	3,63,000	3,99,300	4,39,230
b.	Mannures & Fertilisers	Rs./ month	3,000	12	36,000	39,600	43,560	47,916	52,708
c.	Insectisides & Pesticides	Rs./ month	3,000	12	36,000	39,600	43,560	47,916	52,708
d.	Manpower (Labour)	Rs./ month	3,000	1	36,000	39,600	43,560	47,916	52,708
e.	Advertising & Marketing	Rs./ month	2,000	12	24,000	26,400	26,400	26,400	26,400
f.	Overhead (Electricity, Water etc.)	Rs./ month	2,500	12	30,000	33,000	33,000	33,000	33,000
g.	Contengencies	Rs./ month	2,000	12	24,000	26,400	26,400	26,400	26,400
				TOTAL (B)	**4,86,000**	**5,34,600**	**5,79,480**	**6,28,848**	**6,83,153**
III.	**Net Income**			**TOTAL (A-B)**	**1,67,200**	**1,82,600**	**2,08,120**	**2,36,192**	**4,73,871**

F. Financial Analysis

Particulars	I year	II year	III year	IV year	V year
Capital Costs	5,00,000				
Recurring cost	4,86,000	5,34,600	5,79,480	6,28,848	6,83,153
Total Cost	**9,86,000**	**5,34,600**	**5,79,480**	**6,28,848**	**6,83,153**
Benefit	6,53,200	7,17,200	7,87,600	8,65,040	11,57,024
Depreciated value of buildings etc. @ 10%					79,043
Depreciated value of equipments & furniture @ 15%					70,703
Total Benefit	**6,53,200**	**7,17,200**	**7,87,600**	**8,65,040**	**13,06,769**
Net Benefit	**-3,32,800**	**1,82,600**	**2,08,120**	**2,36,192**	**6,23,616**
Discounting Factor@ 15%	0.87	0.76	0.66	0.57	0.50
NPV cost at 15% DF	8,57,820	4,06,296	3,82,457	3,58,443	3,41,576
NPV benefits at 15% DF	5,68,284	5,45,072	5,19,816	4,93,073	6,53,385
NPW at 15% DF	**4,33,037**				
BCR at 15% DF	**1.18 :1**				
IRR %	**51.97**				

G. Term Loan Repayment

Rate of interst - % per annum **:** 12.00

Opening balance of term loan **:** 3,75,000

Year	Loan Outstanding	Net Income	Principal	Interest	Total Repayment	Net Surplus	DSCR
1	3,75,000	1,67,200	75000	45000	120000	47,200	1.4
2	3,00,000	1,82,600	75000	36000	111000	71,600	1.6
3	2,25,000	2,08,120	75000	27000	102000	1,06,120	2.0
4	1,50,000	2,36,192	75000	18000	93000	1,43,192	2.5
5	75,000	4,73,871	75000	9000	84000	3,89,871	5.6
						Avg. DSCR	**2.7**