

FLORICULTURE



1.0 INTRODUCTION

In recent times, India has witnessed a surge of commercial investment in the field of floriculture. Floriculture is an industry which has tremendous potential in India and is emerging as an important commercial crop. A lot of importance has been given to this sector due to its multiple uses, floricultural crops are highly labour intensive and have the capacity to generate more direct and indirect employment both in rural areas as well as in urban areas. Flowers are a token of love and tenderness for which they are in demand on various occasions/functions. Flowers are also used for extracting essential oils, which are used in perfumes. Many flowers have medicinal values and hence are used in Ayurveda. In India, a large numbers of flowers are grown in different parts according to soil and climate and also according to the preferences of the people for specific type of flowers. India can emerge as a major producer, exporter of flowers and allied materials as it has several advantages such as favourable climate to grow different flowers throughout the year, cheap labour, rapid urbanization, huge scientific and managerial talent and strategically located for exports, good demand for this natural product, eco-friendly product, having prolonged shelf life particularly the modern cut-flowers which are widely accepted globally.

The north eastern region is also full of natural flora and fauna due to its distinctive weather and agro climatic condition. There exist tremendous potentiality to grow a variety of floricultural products in the region. The project is an eco-friendly venture, enhances the greenery of the

waste/jhum lands, reduces pressure on forest resources. Because of their specialized nature and limited production, flower markets are concentrated in a few locations across the country. Large trading centres for floriculture are Pune and Mumbai. Export market of flowers is singularly concentrated in Bangalore. In north India, Delhi is a big trading centre of flowers.

This project profile is for raising and harvesting of Rose, Marigold, Jasmine, Tuberose and Chrysanthemum covering 5 Acres of land.

2.0 MARKET POTENTIAL

At present, flowers are being extensively used in various places. The testimony of this is mushrooming growth of florist centres in urban areas, its prosperity and demand. Cut-flowers segment has marriage halls, hotels and corporate offices as its institutional client base. Of these, marriage halls provide the largest share of business. Hotels and corporate offices have a regular level of demand on a daily basis.

The general consumption and use of flowers from various segments increased as a result of improvement in rising income levels or general level of well being in the country and increased affluence particularly among middle class and this is likely to increase further. This is evident from emerging strong domestic market in recent years, which also indicates better prospects. Domestic markets for cut flowers are witnessing marked pick up. In recent years, the elections have become a regular phenomenon. The uses of modern flowers (Roses) in these election campaigns

become more popular than the traditional flowers. The demand for cut-flowers in Cities has increased as the culture of presenting bouquets on all occasions is spreading. Florist shops have sprung up in cities like Mumbai, Chennai, Kolkotta, Delhi, Hyderabad, Chandigarh, Bangalore and Pune are making brisk business throughout the year. The florist stalls in many parts of the country, which undertakes attractive flower arrangement in the corporate offices, hotels, marriage halls, welcoming of guests and passengers with flowers and bouquets in airports and meetings have become the practice in recent years. The presenting of bouquets to the patients for speedy recovery instead of earlier practice of fruits is the order of the day in city hospitals. The presence of florist shops near hospitals is a good indicator of this. Even in marriages the couples are blessed with bouquets rather than the presenting gifts.

3.0 PROCESS DETAILS:

The main process steps involved are:

a) Choosing a site: Most cut flowers prefer a location in full sun throughout the entire day. The field and soil should be well drained. Wind protection is highly desirable for all plant.

b) Preparing the Bed: Plants should be grown in beds raised 4-6 inches to maximize drainage. Poorly drained soil should be corrected by placing drain lines 10-12 inches deep under the bed.

c) Green House: Greenhouses are framed or inflated structures covered with transparent or translucent material large enough to grow crops under partial or fully controlled environmental conditions to get optimum growth and productivity. Green house envisaged for project will be basically shedding covers to safeguard the plants from excessive rains as well as in few cases from excessive sun. The Green house shed will be made by using local bamboo and sal wood for prop-up and trusses. The top cover will be made by using double ultraviolet stabilized poly films or shading net.

d) Choosing ideal crops: Crops must be selected keeping mind the following conditions.

- a. Must be low cost of production – materials & labour
- b. High value and unlimited demand

- c. High production per sq. ft. of bed space
- d. Long productive life

i. Appropriate time to plant: Planting must be taken depending on target market and on plant classification-whether it is an annuals, biennials or perennials.

ii. How to Plant: In general, transplants should be planted shallow with the roots placed just below the soil surface.

iii. Watering: To maintain floral quality and peak production, the plants must be watered frequently, sometimes daily with some soil types.

iv. Fertilizer: Before initiating any fertilizer programme, testing soil for getting nutrient content is most essential. The application of fertilizer should coincide with crop need.

v. Weed Control: Weeds must be controlled in field production of cut flowers. Competition with weeds reduces the quality and quantity of floral production.

e) Insect Control: The ideal approach is a preventative programme, control insects early, when they are first detected.

f) Disease Control: Foliar fungus diseases are the most serious disease problem on cut flowers.

g) Harvest: Flowers should be harvested at the peak perfection, the peak of perfection is when the flower is showing its best colour and form and last the longer.

h) Post harvest: After flowers are removed from the field and placed in the packing shed, the stems should be cut under water.

i) Pulsing: pulsing is a chemical treatment of flower to prolong the vase life.

j) Marketing & Selling: Flowers can be marketed to a flower wholesaler, a retail florist or directly to the public at a farmers market or farm market.

4.0 COST OF THE PROJECT:

The estimated project cost is given below:

(Rs. in lacs)	
Particulars	Amount (Rs)
Land & Site Development (Own Land/On Lease Hold)	3.64
Building & Civil Works	12.02
Plant & Machinery	2.70
Cost of Seed/Planting Material	0.09
Transplanting of Seedlings	0.35
Pre-operative expenses	1.97
Working capital	3.40
TOTAL	24.17

4.1 Land & Site Development: Details of land & site development are given below.

Total Land under Cultivation - 5 Acres

Particulars	Area (Sqm)	Rate (Rs)	Amount (Rs)
Land Development and Fencing	20235	18	364230
Say (Rs. in lacs)			3.64

4.2 Building & Civil Works: Details of building & civil works are given below.

Particulars	Area (Sq Ft.)	Rate (Rs)	Amount (Rs)
Green House Construction	4000	225	900000
Office cum Store House	100	1200	120000
Drainage and Sewerage	LS	LS	125000
Sub total			1145000
Add: Electrification, water supply and sanitation @ 5%			57250
TOTAL			1202250
Say (Rs. in lacs)			12.02

4.3 Plant & Machinery: Details of plant & machinery are given below.

Particulars	Qty	Rate (Rs)	Amount (Rs)
2000 Litres Capacity Overhead Water Reservoir, 3 HP Diesel Pump Set, Pipings and Fittings	1	1,25,000	125000
Misc. Tools, Equipments and Assets	LS	--	100000
Sub total			225000
Add: Installation, transportation, etc @ 20%			45000
TOTAL			270000
Say (Rs. in lacs)			2.70

4.4 Cost of Planting Material: Details of cost are given below.

Particulars	Amount (Rs)
Seed & Planting Material of Rose	2700
Seed & Planting Material of Marigold	1000
Seed & Planting Material of Jasmine	1000
Seed & Planting Material of Tuberose	2800
Seed & Planting Material of Chrysanthemum	1500
	9000
Say (Rs. In Lacs)	0.09

4.5 Transplanting of Seedlings: Cost of transplantation is given below.

Particulars	Mandays/ Acre	Rate (Rs)	Area under crop (Acres)	Amount (Rs)
Engagement of labour for transplanting of seedlings	35	200	5	35000
Say (Rs. in lacs)				0.35

4.6 Preliminary & pre-operative expenses: Details of preliminary & pre-operative expenses are given below.

		(Rs. in lacs)
Particulars	Amount (Rs)	
Interest during implementation (4 months)	0.49	
Interest during gestation period	1.48	
TOTAL	1.97	

4.7 Working capital: Details of working capital are given below.

						(Rs. in lacs)
(Gestation period of 12 months)	Period (Month)	Margin (%)	Total (Rs)	Bank (Rs)	Margin (Rs)	
Work in progress	12	40%	7.19	4.31	2.87	
Finished goods	1	40%	0.60	0.36	0.24	
Receivables	1	40%	0.71	0.43	0.29	
TOTAL			8.50	5.10	3.40	

5.0 MEANS OF FINANCE

The means of finance for the project is estimated as below.

			(Rs. in lacs)
Particulars	Percent	Amount	
<u>EQUITY</u>			
A. Equity from Promoters	40%	9.67	
B. Subsidy from Central/State Govt.	-		
<u>DEBT</u>			
Term Loan from Banks/Financial Institutions	60%	14.50	
TOTAL	100%	24.17	

6.0 PROFITABILITY STATEMENT

								(Rs. in lacs)
Particulars	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	
<u>A. INCOME</u>								
Production capacity (Kg/annum)	9500	18350	22800	32250	32250	32250	32250	
Average Price of Flowers (Rs/Kg)	90.00	90.00	90.00	90.00	90.00	90.00	90.00	
Total income/annum (In Lacs)	8.55	16.52	20.52	29.03	29.03	29.03	29.03	
<u>B. OPERATING EXPENSES</u>								
Manures and Fertilisers	0.94	0.00	0.00	0.00	0.00	0.00	0.00	
Operational Expenses	0.39	0.00	0.00	0.00	0.00	0.00	0.00	
Overhead Expenses	0.86	0.88	0.89	0.91	0.93	0.95	0.97	
Power & fuel	0.12	0.12	0.12	0.12	0.12	0.12	0.12	
Salary	4.68	4.70	4.73	4.75	4.77	4.80	4.82	

Repair & Maintenance	0.17	0.18	0.18	0.18	0.19	0.19	0.20
Other Expenses	0.03	0.05	0.06	0.09	0.09	0.09	0.09
Total Operating Expenses	7.19	5.92	5.98	6.05	6.10	6.14	6.19
Operating profit	1.36	10.59	14.54	22.97	22.93	22.88	22.83
C. FINANCIAL EXPENSES							
Depreciation	0.54	0.54	0.54	0.54	0.54	0.54	0.54
Interest on Term Loan	1.16	1.05	0.82	0.59	0.36	0.13	0.00
Expenses on transplanting of seedlings written off	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Net Profit	-0.37	8.96	13.14	21.80	21.99	22.18	22.25
Net cash accruals	0.17	9.50	13.68	22.35	22.53	22.72	22.80
Principal Repayment	0.00	2.90	2.90	2.90	2.90	2.90	0.00

6.1 Production capacity: Total production of flowers at various years is estimated as below.

	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7
	In Kg Per Annum						
Rose	500	850	1050	1500	1500	1500	1500
Marigold	2500	5000	6250	8750	8750	8750	8750
Jasmine	750	2000	2500	3500	3500	3500	3500
Tuberose	750	2000	2500	3500	3500	3500	3500
Chrysanthemum	5000	8500	10500	15000	15000	15000	15000
	9500	18350	22800	32250	32250	32250	32250

6.2 Manures and fertilisers: Total expenses on Manures and fertilisers on first year is estimated as below.

Farm Yard Manure	19525
Fertilisers	36745
Plant Protection Chemicals	12000
Fertilizer Cost	16000
Ploy-sheet and Other Consumables	10000
Expenses on Manures during First Year (In Rs.)	94270

6.3 Power & Utility: Total expenses on power & utility at 100% capacity utilization is estimated as below.

A. Expenses on power

Particulars	Quantity	Power (Kw)	Total (Kw)
General Lighting	5	0.10	0.50
No. of hrs/day			8
No. of days/year			300
Annual power requirement (kwh)			1200
Rate per unit (Rs)			3.50
Amount (Rs.)			4200
B. Expenses on Diesel required for diesel pump set			
No. of days/annum		50	
No. of hrs/day		3	
Total hrs/annum		150	
Diesel consumption (liters/hr)		1	
Total consumption of diesel/annum		150	
Diesel Price per litre (Rs)		50	
Amount (Rs)		7500	
Expenses on power and utility per annum (Rs)		11700	

6.4 Salary: Total expenses on salary in the 1st year are estimated as given below. It is assumed that salary expenses will increase @ 0.5% every subsequent year.

Particulars of Employees	Numbers	Salary/ Month (Rs)	Cost/ annum (Rs)
Manager	1	10000	120000
Horticulture Technician	1	7000	84000
Skilled Workers	2	5000	120000
Unskilled Labours	4	3000	144000
Expenses on salary on 1st year (Rs)			468000

6.5 Repair & Maintenance: Total expenses on repair & maintenance in the 1st year is estimated as given below. It is assumed that expenses on repair & maintenance will increase @ 2% every subsequent year.

(Rs. in lacs)			
Particulars	Cost (Rs)	Rate	Amount (Rs)
Building & Civil Works	12.02	1.00%	0.12
Plant & Machinery	2.7	2.00%	0.05
Expenses on repair & maintenance on 1st year (Rs.)			0.17

6.6 Other Expenses: Other expenses have been assumed at 0.3% of sales realisation.

6.7 Depreciation: Depreciation has been calculated by straight line method. The details of calculation are given below.

(Rs in lacs)			
Description	Cost (Rs)	Rate	Amount/ annum (Rs)
Building & Civil Works	12.02	3.34%	0.40
Plant & Machinery	2.70	5.28%	0.14
TOTAL			0.54

6.8 Interest on term loan & principal repayment: Interest rate has been assumed at 8.00%. Duration of Loan repayment has been considered for a period of 6 years including moratorium period of 1 year with equal monthly instalments. The details of calculation are given below.

(Rs in lac)							
Month	Year	1	2	3	4	5	6
Month 1	Opening balance	14.50	14.50	11.60	8.70	5.80	2.90
	Repayment	0.00	0.24	0.24	0.24	0.24	0.24
	Interest (8.00%)	0.10	0.10	0.08	0.06	0.04	0.02
	Closing balance	14.50	14.26	11.36	8.46	5.56	2.66
Month 2	Opening balance	14.50	14.26	11.36	8.46	5.56	2.66
	Repayment	0.00	0.24	0.24	0.24	0.24	0.24
	Interest	0.10	0.10	0.08	0.06	0.04	0.02
	Closing balance	14.50	14.02	11.12	8.22	5.32	2.42
Month 3	Opening balance	14.50	14.02	11.12	8.22	5.32	2.42
	Repayment	0.00	0.24	0.24	0.24	0.24	0.24
	Interest	0.10	0.09	0.07	0.05	0.04	0.02
	Closing balance	14.50	13.78	10.88	7.98	5.08	2.18
Month 4	Opening balance	14.50	13.78	10.88	7.98	5.08	2.18
	Repayment	0.00	0.24	0.24	0.24	0.24	0.24

	Interest	0.10	0.09	0.07	0.05	0.03	0.01
	Closing balance	14.50	13.54	10.64	7.74	4.83	1.93
Month 5	Opening balance	14.50	13.54	10.64	7.74	4.83	1.93
	Repayment	0.00	0.24	0.24	0.24	0.24	0.24
	Interest	0.10	0.09	0.07	0.05	0.03	0.01
	Closing balance	14.50	13.29	10.39	7.49	4.59	1.69
Month 6	Opening balance	14.50	13.29	10.39	7.49	4.59	1.69
	Repayment	0.00	0.24	0.24	0.24	0.24	0.24
	Interest	0.10	0.09	0.07	0.05	0.03	0.01
	Closing balance	14.50	13.05	10.15	7.25	4.35	1.45
Month 7	Opening balance	14.50	13.05	10.15	7.25	4.35	1.45
	Repayment	0.00	0.24	0.24	0.24	0.24	0.24
	Interest	0.10	0.09	0.07	0.05	0.03	0.01
	Closing balance	14.50	12.81	9.91	7.01	4.11	1.21
Month 8	Opening balance	14.50	12.81	9.91	7.01	4.11	1.21
	Repayment	0.00	0.24	0.24	0.24	0.24	0.24
	Interest	0.10	0.09	0.07	0.05	0.03	0.01
	Closing balance	14.50	12.57	9.67	6.77	3.87	0.97
Month 9	Opening balance	14.50	12.57	9.67	6.77	3.87	0.97
	Repayment	0.00	0.24	0.24	0.24	0.24	0.24
	Interest	0.10	0.08	0.06	0.05	0.03	0.01
	Closing balance	14.50	12.33	9.43	6.53	3.63	0.73
Month 10	Opening balance	14.50	12.33	9.43	6.53	3.63	0.73
	Repayment	0.00	0.24	0.24	0.24	0.24	0.24
	Interest	0.10	0.08	0.06	0.04	0.02	0.00
	Closing balance	14.50	12.09	9.19	6.28	3.38	0.48
Month 11	Opening balance	14.50	12.09	9.19	6.28	3.38	0.48
	Repayment	0.00	0.24	0.24	0.24	0.24	0.24
	Interest	0.10	0.08	0.06	0.04	0.02	0.00
	Closing balance	14.50	11.84	8.94	6.04	3.14	0.24
Month 12	Opening balance	14.50	11.84	8.94	6.04	3.14	0.24
	Repayment	0.00	0.24	0.24	0.24	0.24	0.24
	Interest	0.10	0.08	0.06	0.04	0.02	0.00
	Closing balance	14.50	11.60	8.70	5.80	2.90	0.00
Principal Repayment		0.00	2.90	2.90	2.90	2.90	2.90
Interest		1.16	1.05	0.82	0.59	0.36	0.13

7.0 DEBT SERVICE COVERAGE RATIO (DSCR)

(Rs. in lacs)			
Year	1	2	3
Profit After Tax (Net Profit)	-0.37	8.96	13.14
Depreciation	0.54	0.54	0.54
Interest	1.16	1.05	0.82
Total	1.33	10.56	14.50
Interest	1.16	1.05	0.82
Loan repayment	0.00	2.90	2.90
Total	1.16	3.95	3.72
DSCR	1.15	2.67	3.90

Average DSCR = 2.57

8.0 BREAK EVEN POINT (BEP)

(Rs. in lacs)			
Year	1	2	3
A. Net sales	8.55	16.52	20.52
B. Variable cost			
Manures and Fertilisers	0.94	0.00	0.00
Operational Expenses	0.39	0.00	0.00
Overhead Expenses	0.86	0.88	0.89
Power & utility	0.12	0.12	0.12
Other expenses	0.03	0.05	0.06
Total variable cost	2.33	1.04	1.07
C. Contribution (A-B)	6.22	15.47	19.45
D. Fixed & Semi-fixed Costs			
Salary	4.68	4.70	4.73
Repair & maintenance	0.17	0.18	0.18
Interest on Term Loan	1.16	1.05	0.82
Depreciation	0.54	0.54	0.54
Total fixed cost	6.56	6.48	6.27
E. BREAK EVEN POINT	105.47%	41.88%	32.26%

BEP on 3rd Year= 32.26%**TECHNICAL CONSULTANT**

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