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PROJECT REPORT

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PROJECT:

Bio Fertilizer Unit

PROJECT REPORT

Of

BIO FERTILIZER

PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding Bio Fertilizer Unit.

The objective of the pre-feasibility report is primarily to facilitate potential entrepreneurs in project identification for investment and in order to serve his objective; the document covers various aspects of the project concept development, start-up, marketing, finance and management.

[We can modify the project capacity and project cost as per your requirement. We can also prepare project report on any subject as per your requirement.]

BIO-FERTILIZERS

1. INTRODUCTION

The role of essential macro nutrients such as Nitrogen, Phosphorus, Potassium and other secondary elements is well known for increasing the productivity of land. Population explosion has escalated the pressure on higher productivity per unit of land. Modern agriculture emphasized using hybrid seeds, high yielding varieties that are highly responsive to large doses of chemical fertilizers and irrigation. This has resulted in soil being deprived of essential plant nutrients and nourishing organic matter that had always been available to plants when natural farming was being practiced historically. Chemical fertilizers which are now being used extensively since the Green revolution have depleted soil health by making the soil ecology non - inhabitable for soil micro flora and micro fauna which are largely responsible for maintaining soil fertility and providing some essential and indispensable nutrients to plants.

It has now become an imperative to restore the soil with a beneficial microbe population by using Bio Fertilizers Bio Fertilizers contain live cells of specific isolated strains of bacteria and fungi which is formulated in suitable carriers. These microbes upon application to soil under suitable conditions secrete metabolites and enzymes which make the deficient element available to the plant in an assimable form. Nitrogen fixing bacteria fixes atmospheric nitrogen in soil while Phospho bacteria solubilizes insoluble fixed phosphorus in soil , potassium mobilizing bacteria mobilizes the immobile potassium in soil and similarly other microbes mobilize / solubilize the element in soil and make it available to the plant. Vesicular Arbuscular Mycorrhizae (VAM) infected roots penetrate the soil effectively and make relatively unavailable elements such as Phosphorus, Copper and Zinc available to the plant. These beneficial microorganisims work incognito to maintain the ecological balance by active participation in carbon, nitrogen, sulphur and phosphorous cycles in nature.

Bio Fertilizers are a suitable supplement to chemical fertilizers to meet the integrated nutrient demand of the crops. Application of Biofertilizers results in increased mineral and water uptake, root development, vegetative growth and yield of a good quality. They are eco friendly, non toxic, easy to use, economical bio solutions that improve soil health and crop productivity.

This profile proposes to set up a Bio fertilizer unit in a small scale sector with simpler technology and semi- automatic kind of plant set up. The quality of final product would be as per standards laid down and acceptable to the market.

Bio-fertilizers are natural fertilizers which are the preparations containing living cells of micro-

organism which when inoculated into soil provide essential nutrients to plants either by working symbiotically with plant roots or though solubilizations of soil nutrients such as phosphorous. Bio- fertilizers can be classified into two major categories.

i) Nitrogen fixing bio fertilizers like Rhizobium (for legumes), Azotobacter, Azospirillium, Azolla and blue green algae (for cereals) etc. and

ii) Phosphorous Biofertilizers like the preparation containing phosphate solubilizing micro-organisms such as Bacillus, Pseudomonas, Aspergillus and VA-mycorrhiza.

The most important bio fertilizer is Rhizobium, which has been widely accepted by farmers in recent years. Others also have good potential for exploring. The use of blue green algae in paddy and that of Azotobacter and Azospirillium in wheat, sugar-cane and cotton is being reported with good success.

2. MARKET POTENTIAL AND MARKETING ISSUES, IF ANY

Bio-fertilizers have been introduced in the country since more than two decades. However, bio-fertilizers account for only small percentage of overall chemical fertilizers production and the market.

It is estimated that the total production of our fertilizer in the country is approximately 12000 to 15000 TPA. Number of chemical fertilizer plants also produces bio-fertilizers, however, in small quantities. At the national level apart from the fertilizer plants, M/s. Agro Evo Limited, a joint venture of Hoechst and Schering is one of the major units. In terms of product, Rhizobium accounts for the bulk of the bio-fertilizer production.

In Gujarat, fertilizer companies like GSFC, KRIBCO and GUJCOMASOL produces bio-fertilizers in small quantities. Some of the small scale units include following:

- M/s. Agriland Biotech
- M/s. Ocean Agro Industries
- M/s. Gujarat Life Science Pvt. Ltd.

All of these are located at Baroda.

The demand estimation for bio-fertilizer is quite difficult in view of the lack of organised data as also under development of marketing channels, e.g., the demand for Rhizobium bio-fertilizer is estimated to be anywhere from 30,000 TPA to 35,000 TPA. It is estimated that there is lot of hidden potential, provided systematic production, research and marketing is carried out.

3. IMPLEMENTATION SCHEDULE

Sr. No	Activity	Time
1	Preparation of Project report	**Six weeks**
2	E M Registration & approval from Director of Ayurveda	One month
3	Financial/Loan from Banker or Financial Institutions	Two months
4	Power connection/Building construction Six months	One month
5	Machinery procurement & Trial run.	Two months
6	Recruitment of Staff & Labour	One month
7	Actual commercial production	One month

4. COST OF PROJECT

S.NO.	PARTICULARS	TOTAL COST	MARGIN 25%	LOAN
1	Land & Building		owned/leased	
2	Plant and Machinery	51.00	12.75	38.25
3	Furniture & Fixture	0.80	0.20	0.60
4	Contingencies	5.10	1.28	3.83
5	Pre and Post operative exp	1.20	1.20	0.00
6	Margin for Working Capital	11.42	11.42	-
	Total	**69.52**	26.84	42.68

S.NO.	PARTICULARS		AMOUNT	
1	Own Contribution		26.84	
2	Term Loan		42.68	
	Total		**69.52**	

5. WORKING CAPITAL CALCULATION

	TOTAL WORKING CAPITAL 3 MONTHS		Rs.
1	Salary and Wages		17,28,000.00
2	Raw Material		20,50,000.00
3	Utilities		1,50,328.00
4	Other selling and administrative Expenses		6,40,000.00
	Total		45.68
	Working Capital for 3 months	Rs in Lakhs	11.42

6. LIST OF MACHINERY REQUIRED & SOURCES

Sr. no.	Machine	Number	Approx. Cost (Rs. Lakhs)
1	Fermentor	1	30.00
2	Mass mixer	2	3.00
3	Wooden vessel for fermentation with lid, Cap. 50 ltrs and 100 ltrs	2	2.50
4	Reactor Vessels -M.S. Vat cap. 750 kg & 1000kgs	2	
6	Tray Driers Cap 96	1	3.00
7	Bottle filling machine	1	1.00
8	Bottle Sealing Machine	1	0.50
9	S.S. mixing Vessel with stirrer Cap. Various capacities	3	0.50
10	Hot Air oven with 24 trays	1	2.00
11	Bottle washing & Drying machine	2	1.25
14	Water treatment plant , 100 liters capacity	1	1.25
15	QC and Testing equipments	-	2.50
		Total	**51.00**

7. PROFITABILITY CALCULATIONS

At 100 % capacity utilisation (indicative):

- Installed Capacity : 300 TPA
- Sales price (average & indicative) : Rs. 30000/ per ton
- Total Sales turnover: 90.00 lacs
- Cost of production & other expenses : 62.29lacs
- Profit : 27.71 lacs

PROFITABILITY

(i) Cost of Production

S.No.	Particulars		In. Rs.
1	Total Recurring Expenditure		45.68
2	Depreciation on Plant and Machinery @ 15%		7.65
3	Depreciation of Furniture/Fixture & Office Equipment @ 10 %		0.08
4	Finance Cost		8.88
	TOTAL COST OF PRODUCTION	(in Lacs)	62.29

(ii) Turnover (per annum)

S.No.	Particulars	Qty(Tonnes.)	Rate (in Rs)	In. Rs.
1	Average price of Bio Fertilizer	300	30,000.00	90,00,000.00
	Total Turnover			90,00,000.00
		Or Say	(In Lacs)	90.00

(iii) Profit [ii-i] (In Lacs) **27.71**

At 100% capacity utilisation 30.79%
Percentage profit on sales

Note: The profitability basis is indicative and on approximate basis only.

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