VERMICOMPOST FROM BIODEGRADABLE WASTE

I. INTRODUCTION:

Hundreds of tonnes of biodegradable organic waste is being generated in cities and towns in the country, creating disposal problems. This waste can be converted into valuable compost by applying vermi-composting technology. This approach reduces pollution and provides a valuable substitute for chemical fertilizers. This process is profitable at any scale of operation, provided proper process parameters are maintained. Municipal Corporations and Councils are encouraging entrepreneurs by providing required land and the waste matter from all sources free of cost near the waste dumping sites. This scheme gives details of making compost from bio-degradable organic waste using vermi castings. It is assumed that the land and the waste material is free of cost to the entrepreneurs. This unit will be profitable even if the land is taken on lease.

II. MARKET POTENTIAL

Vermi compost is a valuable input for sustainable agriculture and wasteland development. This also can be used widely in pot culture and in home gardens. Several farmers are successfully using Vermicompost. Studies in Maharashtra have shown that usage of vermicompost has improved the production and quality of grapes. There are many successful farmers' experiences of using vermicompost from different climatic zones of the country. There will be lot of demand for vermicompost in future for developing cultivable land subjected to some form of degradation. Government agencies and NGOs are popularizing organic agriculture using vermicompost by organizing awareness campaigns and film show in rural and urban areas. In some cities like Bangalore and Bombay, vermicompost is sold at the rate of Rs.2 per Kgs. and is being used in pot culture and kitchen gardens.

III. BASIS AND PRESUMPTIONS:

Working hours per day 8 hours

Working days in an year 360 days

IV. IMPLEMENTATION SCHEDULE:

The unit can be set up immediately

V. TECHNICAL ASPECTS:

1.Process of Manufacturing:

Soil is to be excavated in the four katcha sheds upto a depth of about one foot for preparing the beds which contain organic waste, vermi castings and cowdung. The length and width of the beds is 100ft. and 5 ft. respectively. Some paddy straw should be spread evenly at the bottom of the excavations. Vermi castings are placed over this straw and the shredded waste material and cowdung slurry are charged in order to feed the earthworms. Charging of waste and cowdung slurry should be continued till the heap of material is one foot above the ground level. The entire bed should be sprinkled with water daily to keep the heaps moist. The heaps are covered with gunny bags to keep them completely dark. The temperature should be maintained at less than 28 deg. C. In two months time, the entire waste would been digested by

the earthworms and converted into dark brown compost rich in organic nutritive matter. After drying, this material is sieved and sold.

2.Quality Specification

As per the Govt. Specification

3.Production Capacity per annum

Plant capacity 250 MT

Capacity utilisation 70 %

Annual sales 175

Value: Rs.175000

4.Motive Power

3 phase

VI. TOTAL CAPITAL INVESTMENTS

S.No	Description	Value Rs.
1	Fixed Capital	75000
2	Working capital for 2 months	20450
	Total cost	95450

VII. MEANS OF FINANCE

1.Promoter's Contribution (5% of total cost) 4773
2.PMRY subsidy (15% of total cost or Rs.7500,whichever is less) 7500
3.Bank loan[total cost-(Promoter's Contribution+ PMRY subsidy) 83177

VIII. FINANCIAL ASPECTS

1. FIXED CAPITAL

i. Land & Buildings : Rented premises at a rent of Rs.250 pm.

One Acre free land & 4 temporary sheds each 100'x 6' with thatch roof Rs.30000

ii Machinery & Equipment

S.No	Description	Quantity	Value Rs.
1	Power driven chaff cutter	1	16000
2	Weighing Machine Platform type	1	4000
3	Water Pump and pipes for water sprinkling		10000
4	Tools & Implements		10000
5	Pre-operative Expenses		5000
	Total		45000

2. WORKING CAPITAL

i)Staff & Labour per month

S.No	Designation	No	@ Rs.	Value Rs.
1	Manager	1	2500	2500
2	Helper	2	1000	2000
	Total			4500

ii)Raw Material (p.m.)

S.No	Description	Quantity	Value Rs.
1	Bio-degradable waste provided by vegetable and fruit market yard and municipal market	108 MT	FREE
2	Vermi Castings	85 kg.	425
3	Cowdung Manure	25 MT	2500
	Total		2925

iii. Utilities per month

S.No.	Description	Value Rs.
1	Power	1000
2	Water	250
	Total	1250

iv.Other expenses per month

S.No	Description	Value Rs.
1	Packing material	300
2	Conveyance, postage, stationery	300
3	Telephone , Misc. expenses	700
	Total	1300

v.Total working capital per month

S.No	Description	Value Rs,.
1	Rent	250
2	Staff and labour	4500
3	Raw materials	2925
4	Utilities	1250
5	Other expenses.	1300
	Total	10225

IX. COST OF PRODUCTION PER ANNUM

S.No	Description	Value Rs.
1	Total working capital	122700
2	Depreciation	4400
3	Interest	14319
	Total	141419

X. TURNOVER PER YEAR

S.No	Item	Quantity	Rate Rs.	Value Rs.
1	Vermi compost	175 MT	1000 /MT	175000
	Total			175000

XI. FIXED COST PER YEAR

S.No	Description	Value Rs.
1	Depreciation	4400
2	Interest	14319
3	Rent	3000
4	40% of salaries & wages	21600
5	40% of other expenses (utilities + OE)	12240
	Total	55559

XII. PROFIT ANALYSIS

Net Profit : sale-total cost=175000-141419 =33581
% of Profit on Sale: Profit / Sale x100 =33581/175000]100 =19.19%
% of Return on Investment: Profit / (Investment) x 100=33581/95450 =35.18%
Break-Even Analysis : FC / (FC+Profit) x100=55559/55559+33581]100=62.33%

XIII. MACHINERY SUPPLIERS

Locally available

XIV. RAW MATERIAL SUPPLIERS

Locally available