

UP MSME 1-Connect

PROJECT REPORT

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PROJECT:

Organic Fertilizer Manufacturing Unit

**PROJECT REPORT
OF
ORGANIC FERTILIZER MANUFACTURING
UNIT**

PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding Organic Fertilizer Manufacturing 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.]

PROJECT AT GLANCE

| | | |
|---|------------|--------------|
| 1 Name of Proprietor/Director | XXXXXXXXXX | |
| 2 Firm Name | XXXXXXXXXX | |
| 3 Registered Address | XXXXXXXXXX | |
| 4 Nature of Activity | XXXXXXXXXX | |
| 5 Category of Applicant | XXXXXXXXXX | |
| 6 Location of Unit | XXXXXXXXXX | |
| 7 Cost of Project | 47.49 | Rs. In Lakhs |
| 8 Means of Finance | | |
| i) Own Contribution | 4.75 | Rs. In Lakhs |
| ii) Term Loan | 33.75 | Rs. In Lakhs |
| iii) Working Capital | 8.99 | Rs. In Lakhs |
| 9 Debt Service Coverage Ratio | 2.21 | |
| 10 Break Even Point | 34% | |
| 11 Power Requirement | 20 | KW |
| 12 Employment | 9 | Persons |
| 13 Details of Cost of Project & Means of Finance | | |

| COST OF PROJECT | |
|--------------------------|---------------|
| (in Lacs) | |
| PARTICULARS | Amount |
| Land & Building | Owned/Rented |
| Plant & Machinery | 35.00 |
| Furniture & Fixture | 1.50 |
| Miscellaneous Assets | 1.00 |
| Working capital Required | 9.99 |
| Total | 47.49 |

| MEANS OF FINANCE | |
|--------------------------------|---------------|
| (in Lacs) | |
| PARTICULARS | Amount |
| Own Contribution @ 10% | 4.75 |
| Term Loan @ 90% | 33.75 |
| Working Capital (Bank Finance) | 8.99 |
| Total | 47.49 |

ORGANIC FERTILIZER MANUFACTURING

UNIT

1. INTRODUCTION



Fertilizer is one of the major inputs in agricultural production. Green Revolution was a combination of increasing agricultural produce and extensive use of chemical fertilizers. Organic fertilizer means substances made up of one or more unprocessed material(s) of a biological nature (plant/ animal) and may include unprocessed mineral materials that have been altered through the microbiological decomposition process. The chemical fertilizers boosted the agricultural produce but on the other hand, generated a lot of second - generation problems. These problems mainly included loss of soil fertility and nutrients and an increase in the number of barren lands. These chemicals also entered the food chain and serious consequences of that are being noticed to date. Heavy metals present inside the chemical fertilizers can affect the vital organs and cause several chronic diseases such as cancer, kidney diseases, nervous disorders, among others. Due to this, a paradigm shift towards the use of organic methods of farming is witnessed. The use of organic fertilizers not

only rejuvenated soil fertility but also increased the produce. Organic fertilizers have gained traction with the support of government policies and increasing awareness amongst the farmers. The organic sector is changing at an unprecedented pace, with new definitions, policies, certifications, products.

2. MARKET POTENTIAL:

The organic fertilizers market is projected to reach USD 11.16 billion by 2022, at a CAGR of 12.08% during the forecast period. Increasing demand for organic food and rising awareness regarding environmental safety are the key factors driving the growth of the organic fertilizers market. Moreover, the abundant availability of organic waste and advances in organic fertilizer manufacturing processes further support the growth of this market. However, the high demand for inorganic (synthetic) fertilizers and challenges to new entrants and small companies hinder the growth of this market marginally. The global population is growing rapidly; therefore, there is a need to increase agricultural production to fulfill the food requirements of the growing population. The use of chemical fertilizers to enhance agricultural production has become a common practice across the globe. However, the increasing use of agrochemical inputs has been a matter of debate for a long time due to their adverse effects on plant physiology, soil quality, animals, and human beings. The overuse of chemical fertilizers causes soil pollution (soil erosion) and water pollution. Also, their extensive use has a direct effect on the environment as chemical residues from fertilizers may remain in the soil and cause soil pollution, contaminate the surface or groundwater, or be released into the atmosphere through volatilization. Residues left in the soil emit ammonia, methane, nitrous oxide, and elemental nitrogen into the environment. Agricultural chemicals have been linked to a wide range of human health hazards, ranging from short-term impacts such as headaches and nausea to chronic impacts like cancer, reproductive harm, and endocrine disruption. Nitrogen and other chemicals in fertilizers can contaminate groundwater and cause blue baby syndrome after drinking. Therefore, due to the adverse effects of chemical fertilizers on the environment, growers increasingly prefer organic fertilizers as a safe alternative to chemical fertilizers. There are several organizations such as the Organic Trade

Association (OTA), the International Federation of Organic Agriculture Movements (IFOAM), the International Society of Organic Agriculture Research (ISOFA), the Midwest Organic and Sustainable Education Service (MOSES), the Northeast Organic Farming Association (NOFA), the Organic Federation of Australia, the Organic Federation of Canada, and the Organic Growers School, that provide education, resources, and practical advice, creating awareness regarding organic farming. Organic fertilizers are formulated with natural plant residues and waste, animal manures & excreta, micro-organisms, and botanical extracts to enhance agricultural production. Organic fertilizers decompose very quickly without any negative effects on the surface and groundwater; thus, they are less hazardous to humans, animals, birds, and anything else that comes in contact with them. These fertilizers remain effective for a long time and improve the soil structure while increasing its water & nutrient holding capacity. They are slow-releasing, non-toxic fertilizers and don't leave any residues in the food; hence, they are preferred for producing residue-free agricultural yield. Therefore, factors such as the growing need to increase agricultural production and increasing awareness about the harmful effects of chemical inputs and benefits of organic fertilizers augment the demand for organic fertilizers.

3. PRODUCT DESCRIPTION

3.1 PRODUCT USES

The use of organic fertilizers for farming helps in eliminating unwanted and harmful contamination in the environment like surface water contaminations, underground water tables, etc. They effectively help in the degradation of other natural substances present in the soil thereby enriching the soil contents.

3.2 PRODUCT RAW MATERIAL

- **Sheep Manure, Poultry Manure, Cow Dung, Agriculture waste, Fish meal, Bone meal, coir pith, Biogas waste, Rock phosphate, etc.**



- **Other:** Packing materials.

3.3 MANUFACTURING PROCESS

This process can be broken down into the following steps-

- **Raw material procurement**
 - **Fertilizer Making Process**
 - **Testing**
-
- **Fertilizer Making Process**
 - Mother manure preparation
 - Granulation
 - Packing
-
- **Testing**
 - Quality control

4. PROJECT COMPONENTS

Plant & Machinery

| S.No. | Machine |
|-------|---|
| 1. | Bio reactor |
| 2. | Bio fermenter |
| 3. | Auto clave |
| 4. | Boiler |
| 5. | RO plant |
| 6. | Compost seiving machine |
| 7. | Rotary Drum Fertilizer Granulator |
| 8. | Pulveriser |
| 9. | Compressor |
| 10. | Laminar Flow Hood |
| 11. | Culture Media Tanks |
| 12. | Freezers |
| 13. | Conveyors |
| 14. | QC Lab Setup |
| 15. | Others (Weighing Machine, Bag Stitching Machine, Pumps, Gear Motors) |

| PROJECTED BALANCE SHEET | | | | | |
|--------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| PARTICULARS | 1st year | 2nd year | 3rd year | 4th year | 5th year |
| <u>Liabilities</u> | | | | | |
| Capital | | | | | |
| Opening Balance | | 7.01 | 11.18 | 16.65 | 23.22 |
| Add:- Own Capital | 4.75 | | | | |
| Add:- Retained Profit | 7.26 | 10.17 | 12.47 | 15.57 | 18.86 |
| Less:- Drawings | 5.00 | 6.00 | 7.00 | 9.00 | 12.00 |
| Closing Balance | 7.01 | 11.18 | 16.65 | 23.22 | 30.08 |
| Term Loan | 30.00 | 22.50 | 15.00 | 7.50 | - |
| Working Capital Limit | 8.99 | 8.99 | 8.99 | 8.99 | 8.99 |
| Sundry Creditors | 1.75 | 2.02 | 2.29 | 2.58 | 2.88 |
| Provisions & Other Liabilities | 0.50 | 1.00 | 1.16 | 1.50 | 1.80 |
| TOTAL : | 48.25 | 45.68 | 44.09 | 43.80 | 43.76 |
| <u>Assets</u> | | | | | |
| Fixed Assets (Gross) | 37.50 | 37.50 | 37.50 | 37.50 | 37.50 |
| Gross Depreciation | 5.58 | 10.32 | 14.36 | 17.79 | 20.71 |
| Net Fixed Assets | 31.93 | 27.18 | 23.14 | 19.71 | 16.79 |
| Current Assets | | | | | |
| Sundry Debtors | 2.87 | 3.51 | 4.05 | 4.66 | 5.31 |
| Stock in Hand | 8.87 | 10.23 | 11.69 | 13.24 | 14.85 |
| Cash and Bank | 4.58 | 4.76 | 5.21 | 6.19 | 6.82 |
| TOTAL : | 48.25 | 45.68 | 44.09 | 43.80 | 43.76 |

| <u>PROJECTED CASH FLOW STATEMENT</u> | | | | | |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|
| PARTICULARS | 1st year | 2nd year | 3rd year | 4th year | 5th year |
| <u>SOURCES OF FUND</u> | | | | | |
| Own Margin | 4.75 | | | | |
| Net Profit | 7.66 | 11.15 | 14.13 | 18.50 | 23.19 |
| Depriciation & Exp. W/off | 5.58 | 4.74 | 4.04 | 3.44 | 2.92 |
| Increase in Cash Credit | 8.99 | - | - | - | - |
| Increase In Term Loan | 33.75 | - | - | - | - |
| Increase in Creditors | 1.75 | 0.26 | 0.28 | 0.29 | 0.30 |
| Increase in Provisions & Other liabilities | 0.50 | 0.50 | 0.16 | 0.35 | 0.30 |
| TOTAL : | 62.97 | 16.66 | 18.60 | 22.57 | 26.72 |
| <u>APPLICATION OF FUND</u> | | | | | |
| Increase in Fixed Assets | 37.50 | | | | |
| Increase in Stock | 8.87 | 1.36 | 1.46 | 1.55 | 1.61 |
| Increase in Debtors | 2.87 | 0.64 | 0.54 | 0.61 | 0.65 |
| Repayment of Term Loan | 3.75 | 7.50 | 7.50 | 7.50 | 7.50 |
| | - | - | - | - | - |
| Drawings | 5.00 | 6.00 | 7.00 | 9.00 | 12.00 |
| Taxation | 0.40 | 0.98 | 1.66 | 2.92 | 4.33 |
| TOTAL : | 58.39 | 16.48 | 18.15 | 21.59 | 26.09 |
| Opening Cash & Bank Balance | - | 4.58 | 4.76 | 5.21 | 6.19 |
| Add : Surplus | 4.58 | 0.18 | 0.44 | 0.98 | 0.63 |
| Closing Cash & Bank Balance | 4.58 | 4.76 | 5.21 | 6.19 | 6.82 |

| PROJECTED PROFITABILITY STATEMENT | | | | | |
|--|-----------------|-----------------|-----------------|-----------------|-----------------|
| PARTICULARS | 1st year | 2nd year | 3rd year | 4th year | 5th year |
| Capacity Utilisation % | 45% | 50% | 55% | 60% | 65% |
| SALES | | | | | |
| Gross Sale | | | | | |
| Organic fertilizer | 123.12 | 150.44 | 173.45 | 199.61 | 227.51 |
| Total | 123.12 | 150.44 | 173.45 | 199.61 | 227.51 |
| COST OF SALES | | | | | |
| Raw Material Consumed | 75.17 | 86.40 | 98.21 | 110.59 | 123.55 |
| Electricity Expenses | 1.73 | 1.92 | 2.11 | 2.30 | 2.50 |
| Depreciation | 5.58 | 4.74 | 4.04 | 3.44 | 2.92 |
| Wages & labour | 7.44 | 8.56 | 9.84 | 11.32 | 13.01 |
| Repair & maintenance | 3.69 | 4.51 | 5.20 | 6.59 | 7.51 |
| Consumables | 3.69 | 4.51 | 7.46 | 9.98 | 12.51 |
| Packaging cost | 4.92 | 7.52 | 8.67 | 9.98 | 11.38 |
| Cost of Production | 102.22 | 118.17 | 135.53 | 154.20 | 173.38 |
| Add: Opening Stock | - | 5.11 | 5.91 | 6.78 | 7.71 |
| Less: Closing Stock | 5.11 | 5.91 | 6.78 | 7.71 | 8.67 |
| Cost of Sales | 97.11 | 117.37 | 134.66 | 153.26 | 172.42 |
| GROSS PROFIT | 26.01 | 33.07 | 38.79 | 46.35 | 55.08 |
| Salary to Staff | 5.52 | 6.35 | 7.62 | 9.14 | 10.51 |
| Interest on Term Loan | 3.32 | 2.92 | 2.10 | 1.27 | 0.45 |
| Interest on working Capital | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 |
| Rent | 3.60 | 4.14 | 4.76 | 5.48 | 6.30 |
| Selling & Administration Expenses | 4.92 | 7.52 | 9.19 | 10.98 | 13.65 |
| TOTAL | 18.35 | 21.92 | 24.66 | 27.86 | 31.89 |
| NET PROFIT | 7.66 | 11.15 | 14.13 | 18.50 | 23.19 |
| Taxation | 0.40 | 0.98 | 1.66 | 2.92 | 4.33 |
| PROFIT (After Tax) | 7.26 | 10.17 | 12.47 | 15.57 | 18.86 |
| GROSS PROFIT RATIO | 21.12% | 21.98% | 22.36% | 23.22% | 24.21% |
| NET PROFIT RATIO | 6.22% | 7.41% | 8.15% | 9.27% | 10.19% |

CALCULATION OF D.S.C.R

| PARTICULARS | 1st year | 2nd year | 3rd year | 4th year | 5th year |
|------------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| CASH ACCRUALS | 12.83 | 14.92 | 16.51 | 19.01 | 21.78 |
| Interest on Term Loan | 3.32 | 2.92 | 2.10 | 1.27 | 0.45 |
| Total | 16.15 | 17.84 | 18.61 | 20.28 | 22.23 |
| REPAYMENT | | | | | |
| Instalment of Term Loan | 3.75 | 7.50 | 7.50 | 7.50 | 7.50 |
| Interest on Term Loan | 3.32 | 2.92 | 2.10 | 1.27 | 0.45 |
| Total | 7.07 | 10.42 | 9.60 | 8.77 | 7.95 |
| DEBT SERVICE COVERAGE RATIO | 2.29 | 1.71 | 1.94 | 2.31 | 2.80 |
| AVERAGE D.S.C.R. | | | | | 2.21 |

REPAYMENT SCHEDULE OF TERM LOAN

| | | | | | | | Interest | 11.00% |
|------------|-----------------|--------|----------|-------|----------|-----------|-----------------|--------|
| Year | Particulars | Amount | Addition | Total | Interest | Repayment | Closing Balance | |
| 1st | Opening Balance | - | | | | | | |
| | 1st month | | 33.75 | 33.75 | - | - | 33.75 | |
| | 2nd month | 33.75 | - | 33.75 | 0.31 | - | 33.75 | |
| | 3rd month | 33.75 | - | 33.75 | 0.31 | - | 33.75 | |
| | 4th month | 33.75 | - | 33.75 | 0.31 | - | 33.75 | |
| | 5th month | 33.75 | - | 33.75 | 0.31 | - | 33.75 | |
| | 6th month | 33.75 | - | 33.75 | 0.31 | - | 33.75 | |
| | 7th month | 33.75 | - | 33.75 | 0.31 | 0.63 | 33.13 | |
| | 8th month | 33.13 | - | 33.13 | 0.30 | 0.63 | 32.50 | |
| | 9th month | 32.50 | - | 32.50 | 0.30 | 0.63 | 31.88 | |
| | 10th month | 31.88 | - | 31.88 | 0.29 | 0.63 | 31.25 | |
| | 11th month | 31.25 | - | 31.25 | 0.29 | 0.63 | 30.63 | |
| | | 30.63 | - | 30.63 | 0.28 | 0.63 | 30.00 | |
| | | | | | 3.32 | 3.75 | | |
| 2nd | Opening Balance | | | | | | | |
| | 1st month | 30.00 | - | 30.00 | 0.28 | 0.63 | 29.38 | |
| | 2nd month | 29.38 | - | 29.38 | 0.27 | 0.63 | 28.75 | |
| | 3rd month | 28.75 | - | 28.75 | 0.26 | 0.63 | 28.13 | |
| | 4th month | 28.13 | - | 28.13 | 0.26 | 0.63 | 27.50 | |
| | 5th month | 27.50 | - | 27.50 | 0.25 | 0.63 | 26.88 | |
| | 6th month | 26.88 | - | 26.88 | 0.25 | 0.63 | 26.25 | |
| | 7th month | 26.25 | - | 26.25 | 0.24 | 0.63 | 25.63 | |
| | 8th month | 25.63 | - | 25.63 | 0.23 | 0.63 | 25.00 | |
| | 9th month | 25.00 | - | 25.00 | 0.23 | 0.63 | 24.38 | |
| | 10th month | 24.38 | - | 24.38 | 0.22 | 0.63 | 23.75 | |
| | 11th month | 23.75 | - | 23.75 | 0.22 | 0.63 | 23.13 | |
| | 12th month | 23.13 | - | 23.13 | 0.21 | 0.63 | 22.50 | |
| | | | | | 2.92 | 7.50 | | |
| 3rd | Opening Balance | | | | | | | |
| | 1st month | 22.50 | - | 22.50 | 0.21 | 0.63 | 21.88 | |
| | 2nd month | 21.88 | - | 21.88 | 0.20 | 0.63 | 21.25 | |
| | 3rd month | 21.25 | - | 21.25 | 0.19 | 0.63 | 20.63 | |
| | 4th month | 20.63 | - | 20.63 | 0.19 | 0.63 | 20.00 | |
| | 5th month | 20.00 | - | 20.00 | 0.18 | 0.63 | 19.38 | |
| | 6th month | 19.38 | - | 19.38 | 0.18 | 0.63 | 18.75 | |
| | 7th month | 18.75 | - | 18.75 | 0.17 | 0.63 | 18.13 | |
| | 8th month | 18.13 | - | 18.13 | 0.17 | 0.63 | 17.50 | |
| | 9th month | 17.50 | - | 17.50 | 0.16 | 0.63 | 16.88 | |
| | 10th month | 16.88 | - | 16.88 | 0.15 | 0.63 | 16.25 | |
| | 11th month | 16.25 | - | 16.25 | 0.15 | 0.63 | 15.63 | |
| | 12th month | 15.63 | - | 15.63 | 0.14 | 0.63 | 15.00 | |
| | | | | | 2.10 | 7.50 | | |

| | | | | | | | |
|------------|-------------------|-------|--------|-------|-------------|-------------|-------|
| 4th | 1st month | 15.00 | - | 15.00 | 0.14 | 0.63 | 14.38 |
| | 2nd month | 14.38 | - | 14.38 | 0.13 | 0.63 | 13.75 |
| | 3rd month | 13.75 | - | 13.75 | 0.13 | 0.63 | 13.13 |
| | 4th month | 13.13 | - | 13.13 | 0.12 | 0.63 | 12.50 |
| | 5th month | 12.50 | - | 12.50 | 0.11 | 0.63 | 11.88 |
| | 6th month | 11.88 | - | 11.88 | 0.11 | 0.63 | 11.25 |
| | 7th month | 11.25 | - | 11.25 | 0.10 | 0.63 | 10.63 |
| | 8th month | 10.63 | - | 10.63 | 0.10 | 0.63 | 10.00 |
| | 9th month | 10.00 | - | 10.00 | 0.09 | 0.63 | 9.38 |
| | 10th month | 9.38 | - | 9.38 | 0.09 | 0.63 | 8.75 |
| | 11th month | 8.75 | - | 8.75 | 0.08 | 0.63 | 8.13 |
| | 12th month | 8.13 | - | 8.13 | 0.07 | 0.63 | 7.50 |
| | | | | | 1.27 | 7.50 | |
| 5th | Opening Balance | | | | | | |
| | 1st month | 7.50 | - | 7.50 | 0.07 | 0.63 | 6.88 |
| | 2nd month | 6.88 | - | 6.88 | 0.06 | 0.63 | 6.25 |
| | 3rd month | 6.25 | - | 6.25 | 0.06 | 0.63 | 5.63 |
| | 4th month | 5.63 | - | 5.63 | 0.05 | 0.63 | 5.00 |
| | 5th month | 5.00 | - | 5.00 | 0.05 | 0.63 | 4.38 |
| | 6th month | 4.38 | - | 4.38 | 0.04 | 0.63 | 3.75 |
| | 7th month | 3.75 | - | 3.75 | 0.03 | 0.63 | 3.13 |
| | 8th month | 3.13 | - | 3.13 | 0.03 | 0.63 | 2.50 |
| | 9th month | 2.50 | - | 2.50 | 0.02 | 0.63 | 1.88 |
| | 10th month | 1.88 | - | 1.88 | 0.02 | 0.63 | 1.25 |
| | 11th month | 1.25 | - | 1.25 | 0.01 | 0.63 | 0.63 |
| | 12th month | 0.63 | - | 0.63 | 0.01 | 0.63 | - |
| | | | | | 0.45 | 7.50 | |
| | DOOR TO DOOR | 60 | MONTHS | | | | |
| | MORATORIUM PERIOD | 6 | MONTHS | | | | |
| | REPAYMENT PERIOD | 54 | MONTHS | | | | |

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