Vermi-Composting Unit

Objectives:

- To provide cultural material of the desired species and train farmers and entrepreneurs.
- To demonstrate practically the production methodology on the unit that will be set up.

2. Location and Area of Operation:

Suburbs of cities and villages around urban centres can be ideal locations for practice of vermicomposting on a large scale, from the point of view of availability of raw material and marketing of the produce. Unit may also be located in areas with concentration of fruits and vegetables and floriculture units.

3. Project Components:

i. Sheds : For a vermi-composting unit, whether small or big, could be of thatched roof supported by bamboo rafters and purlins, wooden trusses and stone pillars.

ii. Vermi-beds : Normally the beds are 75 cm - 90 cm thick depending on the provision of filter for drainage of excess water. The entire bed area could be above the ground.

iii. Land : About 0.5-1 acre of land will be needed to set up a vermiculture production cum extension centre. Even sub marginal land also will serve the purpose.

iv. Buildings & Furniture : In the activity on a large scale on commercial lines, considerable amount may have to be spent on buildings to house the office, store the raw material and finished product, provide minimum accommodation to the personnel. A reasonable amount could also be considered for furnishing the office-cum-stores including the storage racks and other office equipment.

v. Seed Stock : Worms @ 350 worms per m3 of bed space should be adequate to start with and to build up the required population in about two to three cycles.

vi. Fencing, Roads/Paths and Water Supply System : The site area needs development for construction of structures and development of roads and pathways for easy movement of hand-drawn trolleys/ wheel barrows for conveying the raw material and the finished products to and from the vermi-sheds. There is also need to plan for a water source, lifting mechanism and a system of conveying and applying the water to the vermi-beds.

vii. Machinery : Farm machinery and implements are required for cutting (shredding) the raw material in small pieces, conveying shredded raw material to the vermi-sheds, loading, unloading, collection of compost and such related activities.

viii. Transport : For any vermi-composting unit transport arrangement is a must. A large sized unit with about 1000 tonnes per annum capacity may require a tonne capacity mini-truck.
4. Project Cost: Rs.

A. Capital cost:

Item Cost (Rs.)

1. 1 Construction of a temporary shed for setting up 200tpa vermi-compost unit 72,000
2. 2 Implement and Machinery for a 200tpa unit 80,000
3. 3 Office cum store 60,000
4. 4 Water source 60,000
5. 5 Two NADEP tanks 5,000

Total 277,000

B. Recurring Cost:

Item Cost (Rs.)

1. 1 Feed stock & handling cost @ Rs. 72,000 per cycle for 5 cycle in a year 360,000
2. 2 Rent on lease @ Rs. 8,000 per year 8,000
3. Total 368,000
4. (Operational cost of two cycles is capatalised)
5. Total Project Cost : Capital cost - Rs. 2,77,000
6. Recurring cost - Rs. 1,44,000
7. capitalised

Total Rs. 4,21,000

5. Margin (20%) : Rs. 0.85 lakhs

6. Bank loan : Rs. 3.36 lakhs

7. Rate of interest : 15% p.a.

8. Repayment period : 8 years including grace period of one year

9. Income

    Item Rs. Rs.
    (I year) (II year)
1. Sale of vermi-compost @ Rs. 2500 per ton 300,000 450,000
2. Sale of worms @ 5 kg per tonne of compost and Rs. 50 per kg 45,000
3. Consultancy and extension services 10,000

Total 300,000 505000

Net Benefit 79,200 137,000

10. Economics of the Project:

a. NPW : Rs. 2.35 lakhs
b. BCR : 1.12 : 1
c. IRR : 36%

Note:

- Margin of 20% is assumed, but the actual margin will be as per the discretion of the banks.
- Interest rate of 15% is assumed, however, the actual rate will be as per banks' discretion.
- Similarly, the other economic / financial parameters such as the repayment period, DSCR, IRR, etc., may also vary depending upon the margin, interest rate, etc., taken into account by the bank.