

PROJECT REPORT ON MUSHROOM CULTIVATION

A. PROJECT PROFILE (FINANCIAL)

PARAMETERS VALUES

1. Type of mushroom Oyster
2. Unit size in sq.m. Medium Scale
3. Product Mushroom
4. Cost of the project 1,414,750
5. Bank loan 1,061,062
6. Margin money 353,688
7. Interest rate (% per annum) 12
8. Repayment period 5 years

PROJECT DESCRIPTION

Introduction

The oyster mushroom is one of the most suitable fungal organism for producing protein rich food from various agro wastes without composting. Oyster mushroom can be grown in the plains and in temperatures ranging from 32 to 38 degrees centigrade. Mushroom, which is pure vegetarian food, is good for diabetic patients. It also has other medicinal properties. It is good for stomach-related ailments like gastric ulcer and has high fibre content and no sugar. It is also rich in protein. Mushroom cultivation has become a profitable business with the produce fetching good returns in the market

Production Technology:

1. Select sites that are shaded and free from direct sunlight. Construct a bed or plot with a dimension of 30 cm x 300 cm. The bed must be supported by pegs placed on its four corners.
2. Gather the basal portion of rice straws or dry leaves from standing banana trees and bundle them.
3. Cut the bedding materials 45-60 cm long for each bundle.
4. Soak bedding materials 3-10 hours in a big basin or a clean empty gasoline tank.
5. Set the bedding materials. Press and compact the layer evenly.
6. Wet the bed layer with urea or ammonium sulfate at the rate of 1-2 tablespoons per gallon of water. Add sugar to the solution at the rate of 33 g. per gallon of water to improve yield.
7. Stop watering when the solution drips off the bed.
8. Tip: The materials needed are chiefly agricultural leftovers. Most of these materials are readily found in the fields or in the neighborhood.

9. Insert thumb-size spawns 5 cm deep, 10 cm apart on both ends and along the sides of the bed. Cover with a thin layer of kakawate or ipll-ipil leaves.

10. Variation: Other materials that can be used as bedding include dry water lilies, jute sacks, legume straws, cornstalks, sugar cane bagasse, and abaca leaves.

11. Set second layer by following the same procedure prescribed in preparing the first layer. Repeat procedure until six layers have been laid.

12. Cover the bed entirely with plastic sheet or clean empty cement bags for 5 to 7 days, then remove.

13. Assumption: 15 bags of mushroom spawns may be planted in 5 beds. Maximum of 10 kilograms may be harvested per bed in one month.

14. Regularly inspect the beds. Place pan filled with water at the base of each peg to prevent ants or other insects from climbing and attacking the mushrooms.

15. Harvest at button or umbrella stage or on the 13th day after planting. Beds will give three-days-a-week yield for one and a half to two months. Mushrooms in the button stage of growth are more succulent, hence they are preferred than the fully opened ones.

16. Package mushroom in plastic bags on per kilogram basis. Perforate the plastic bags allowing air inside to maintain the freshness of the mushroom ready for market.

17. Air-dry mushrooms that are not sold immediately. Dried mushrooms can be sold and command higher price.

18. Tips: Do not use mushroom bedding more than once. Used bedding can be used later as compost for making organic fertilizers. Do not plant in the middle of the bed because mushrooms do not grow there.

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MARKET POTENTIAL

Mushrooms are marketed as fresh, dried and preserved. Market for mushrooms is growing rapidly because of their nice aroma, subtle flavour, nutritious values and special taste. Many exotic preparations are made from them like soup, pickles, vegetables etc. It is also used for stuffing several food preparations and for garnishing. But its consumption is still confined to urban and semiurban population. Mushrooms have very short life after harvesting and hence they are sold in fresh form. Their shelf life can be enhanced by processing them. Processed mushrooms are packed in special quality polythene bags or canned. This variety can be sold to far off places.

Mushroom cultivation has been declared as a major thrust area by Govt. of India. However there is huge demand supply gap. Mushroom dish is a common item in all the big hotels.

Day by day there is continuous increase in the demand of mushroom which denotes that there is huge market potential in near future.

EXTENSION ACTIVITIES

1. Starting the Oyster mushroom production business requires planning and preparation. Before starting a Mushroom production the entrepreneurs/ farmers are generally advised to undergo training. They can contact Mushroom Research Stations/Agriculture University etc. for the purpose. However availability of training facilities & resources are inadequate. Hence I will provide onsite training on cultivation technology of Oyster mushroom production to farmers. During training program special thrust on Seeds/spawn preparation technique, Substrate preparation technique, Infrastructure requirement for setting up of a composite mushroom farm, Crop raising and crop management, Pest/diseases management, Post harvest handling/value addition & economics of mushroom cultivation will be also given.
2. Consultancy will be provided for setting up of model units of Mushroom.
3. I will take Initiatives to strengthen linkages between State Departments, Mushroom Development agencies, NGO's and farmers.
4. For farmers who have decided to avail loan from bank for Mushroom unit, assistance will be provided to prepare their bankable project report.
5. For the marketing of mushroom, farmers will be provided necessary support & guidance.
6. Nowadays internet has become important tool to get latest information. There are various websites available on Mushroom production which provides useful content. This information will be shared to farmers.
7. Field visits of mushroom growers will be arranged to successful units & research stations which will motivate them to adapt good mushroom production practices.

SWAT ANALYSIS

Strengths:

- Mushrooms are cultivated indoors and do not require arable land. Small farmers and landless workers constitute major fraction of mushroom cultivation.
- Mushroom is a short-duration crop with high yield per unit time.
- Mushrooms are valued not only as nutritious and delicious food but these also possess medicinal properties including anti-cancer and anti-HIV activities.
- Providing advisory services to farmers on new technologies helps to retain the clients base.
- India with a population of over one billion people; has a vast domestic market for mushrooms.
- Mushroom production has a labour-intensive nature and low labour cost is the biggest advantage of India, which it enjoys vis-à-vis developed countries.

- Cheap availability of agri-horticultural and forestry wastes, and cereal grains in sufficient quantities to produce around 5 million tonnes of mushrooms in India.
- Round-the-year cultivation systems are in operation. Indian climate condition has an inherent advantage of diversification of mushroom cultivation in different regions and seasons of the country.
- Strong research infrastructure and availability of expert manpower within the country.

Opportunities:

- Mushroom production provides an ideal opportunity for conversion of agro-waste into wealth, quality food and organic manure and leads to high range of reduction in environmental pollution.
- Mushroom being an indoor crop provides vast opportunities for empowering rural and urban women through cultivation, production of value-added products and marketing. It also provides vast opportunities for unemployed youths to take up mushroom cultivation and marketing.
- Mushroom provides an opportunity to eliminate protein malnutrition among people having cereals as staple food.
- India can enter into a big and lucrative mushroom pharmaceutical international trade that is presently monopolized by some East-Asian countries and the US. There is big scope for diversifying mushroom export by including other mushroom species for export.
- India attaining self-sufficiency in food production, the domestic market of mushroom is likely to enlarge sooner than later.
- The collaborative arrangements of government institutions with nongovernment organizations, self-help groups and corporate sectors for processing, manufacturing of value-added products and marketing of mushrooms.

Weakness

- Mushrooms are highly perishable vegetable crop with less than two to three days of storability.
- Presently, more than 85 per cent of the total mushroom production in the country is of button mushroom. There is less diversification with respect to mushroom species as well as mushroom products.
- Inadequate implementation and follow-up of institute-village linkage programmed for effective transfer of mushroom production technology.

Project Report on Mushroom Farming by Sachin Kumar Sahu

- Non-availability of suitable integrated pest management (IPM) packages for major pests and diseases of cultivated mushrooms.
- Non-implementation of agricultural crop insurance schemes to the mushroom crop and absence of government sponsored minimum support price (MSP) for mushroom crop.

Threats

- With globalization, there is competition not only for quality produce but also for the price.
- Improper processing and packaging, especially of canned mushroom products, might lead to health hazards.
- Tough competition from East-Asian countries which are the major exporters of mushroom to the western countries.
- In the field of mushroom research, India not only lags behind in developing the varieties and technologies but the pace is also slow as compared to other countries, which explore modern research tools like biotechnology and highly sophisticated instruments.

ECONOMICS OF THE PROJECT

A. BASICS AND PRESUMPTIONS

PARTICULARS UNIT QUANTITY

I. Technical Parameters

1. Cycles during year No. 3

2. No. of polythene bags required per cycle Kg

COST OF PROJECT

PARTICULARS	EXISTING	PROPOSED	AMOUNT
1. Fixed Assets Required	0.00	375,000.00	375,000.00
2. Working Capital	0.00	125,000.00	125,000.00
	0.00	500,000.00	500,000.00

MEANS OF FINANCE

PARTICULARS	EXISTING	PROPOSED	AMOUNT
1. Own Capital	0.00	125,000.00	125,000.00
2. Current Liabilities	0.00	0.00	0.00
3. Term Loan	0.00	375,000.00	375,000.00
	0.00	500,000.00	500,000.00

SALES REALIZATION ANNUALLY

NAME OF ITEM	Qty in Qtls	Rate / kg	AMOUNT IN RS
1. MUSHROOM	220	55	1210000
	Total		1210000

COST PRICE OF ITEMS ANNUALLY

<u>NAME OF ITEM</u>	<u>Qty in Qtls</u>	<u>Rate / kg</u>	<u>AMOUNT IN RS</u>
Fixed Assets			
1- Hut/Room for mushroom production			300000
2- Machinery & Equipments			50000
3- Furniture			50000
Working Capital			
1- Mushroom Spawn			5000
2- Paddy/Wheat Straw			50000
3- Urea, Chiken Manure, Gypsum			20000
4- Cleaning Agent			1000
5- Packing Material			20000
6- Miscellaneous			4000
	Total		500000

* Average Rate includes cost of transportation & packing.

<u>SATFF SALARY</u>	<u>NO</u>	<u>SALARY PER MONTH</u>	<u>AMOUNT</u>
1. Supervisor	1	10000	10,000.00
2. Labour	3	5000	15,000.00
		Total	25,000.00
Salary per year			300,000.00

<u>Other Expenses (Per month)</u>	<u>AMOUNT</u>
1. Loading & Unloading Expenses	200.00
2. Transportation Exp	3,000.00
3. Telephone	2,000.00
4. Conveyance Exp	1,000.00
5. Entertainment Exp	1,000.00
6. Miscellaneous Exp	1,000.00
7. lease Exp	3,750.00
	Total
	11,950.00
Expenses per year	143,400.00

PROJECTED PROFITABILITY STATEMENT

(Figures in Lakh")

ITEM (A)	1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year
SALES	12.10	13.31	14.64	15.74	16.92	18.19
Total	12.10	13.31	14.64	15.74	16.92	18.19
B. EXPENDITURE						
Cost of Items	5.00	5.50	6.05	6.66	7.32	8.05
Staff Salary & Labour Exp.	3.00	3.00	3.30	3.63	3.99	4.39
Other Expenses	1.43	1.43	1.58	1.74	1.91	2.10
Interest on Term Loan	0.11	0.39	0.29	0.20	0.11	0.00
Depreciation	0.56	0.48	0.41	0.35	0.29	0.00
Total	10.11	10.80	11.63	12.56	13.62	14.54
Profit (A-B)	1.99	2.51	3.01	3.17	3.30	3.64
Income Tax	0.60	0.75	0.90	0.95	0.99	1.09
Profit after Tax	1.39	1.76	2.11	2.22	2.31	2.55

PROJECTED BALANCE SHEET

(Figures in Lakh")

PARTICULARS	1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year
<u>LIABILITIES</u>						
Capital	0.00	1.64	2.40	3.51	4.73	6.04
Add : Addition	1.25	0.00	0.00	0.00	0.00	0.00
Add : Profit after tax	1.39	1.76	2.11	2.22	2.31	2.55
	2.64	3.40	4.51	5.73	7.04	8.59
Less : Drawing	1.00	1.00	1.00	1.00	1.00	1.00
	1.64	2.40	3.51	4.73	6.04	7.59
<u>LOAN LIABILITIES</u>						
Term Loan	3.75	3.75	3.75	3.75	3.75	3.75
Creditor	1.00	1.10	1.21	1.33	1.46	1.61
	6.39	7.25	8.47	9.82	11.26	12.95
<u>ASSETS</u>						
Fixed Assets (Less Depreciation)	3.19	2.71	2.30	1.96	0.00	0.00
<u>CURRENT ASSETS</u>						
Stocks	0.50	0.55	0.61	0.67	0.73	0.81
Debtors	1.50	1.65	1.82	2.00	2.20	2.42
Cash & Bank Balance	1.21	2.34	3.75	5.20	8.33	9.73
	6.39	7.25	8.47	9.82	11.26	12.95

DEPRECIATION SCHEDULE

COMPUTATION OF DEPRECIATION ON W.D.V. METHOD.

YEARS	EQUIPMENTS	TOTAL
	15%	
1st Year	3.75	3.75
Less : Dep	0.56	0.56
2nd Year	3.19	3.19
Less : Dep	0.48	0.48
3rd Year	2.71	2.71
Less : Dep	0.41	0.41
4th Year	2.30	2.30
Less : Dep	0.35	0.35
5th Year	1.96	1.96
Less : Dep	0.29	0.29

PROJECTED FUND FLOW STATEMENT

Figures (Rs. in Lakh)

<u>PARTICULARS</u>	1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year
<u>SOURCE OF FUND</u>						
Own Contribution	1.25	0.00	0.00	0.00	0.00	0.00
Net Profit	1.39	1.76	2.11	2.22	2.31	2.55
Term Loan	3.75	0.00	0.00	0.00	0.00	0.00
Depreciation	0.56	0.48	0.41	0.35	0.29	0.00
Creditor	1.00	0.10	0.11	0.12	0.13	0.15
	7.96	2.34	2.63	2.69	2.74	2.70
<u>APPLICATION OF FUNDS</u>						
Increase in fixed assets	3.75	0.00	0.00	0.00	0.00	0.00
Increase in Stocks	0.50	0.05	0.06	0.06	0.07	0.07
Debtors	1.50	0.15	0.17	0.18	0.20	0.22
Drawing	1.00	1.00	1.00	1.00	1.00	1.00
	6.75	1.20	1.22	1.24	1.27	1.29
Opening Balance	0.00	1.21	2.34	3.75	5.20	8.33
Cash Surplus/ Deficit	1.21	1.14	1.41	1.45	1.47	1.40
	1.21	2.34	3.75	5.20	6.67	9.73
Closing Balance	1.21	2.34	3.75	5.20	8.33	9.73

PROJECTED DEBT SERVICE COVERAGE RATIO STATEMENT

(Figures in lakh)

<u>PARTICULARS</u>	1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year
<u>SOURCES OF FUND</u>						
Net Profit	1.39	1.76	2.11	2.22	2.31	2.55
Depreciation	0.56	0.48	0.41	0.35	0.29	0.00
Interest on T/Loan	0.11	0.39	0.29	0.20	0.11	0.00
<u>TOTAL</u>	2.07	2.62	2.81	2.77	2.71	2.55
<u>DEBTS TO SERVICE</u>						
Repayment of T/Loan	0.19	0.75	0.75	0.75	0.75	0.00
Interest on T/Loan	0.11	0.39	0.29	0.20	0.11	0.00
<u>TOTAL</u>	0.30	1.14	1.04	0.95	0.86	0.00
DSCR	6.92	2.31	2.69	2.91	3.17	6.13
Average DSCR	2.62					

PROJECTED INTEREST CALCULATION & REPAYMENT SCHEDULE

INTEREST ON TERM LOAN

(Rs. In 'Lakh')

<u>YEARS</u>	<u>QTRS.</u>	<u>OPENING</u>	<u>REPAYMENT</u>		<u>BALANCE</u>	<u>QUARTER</u> <u>INTEREST</u>	<u>YEARLY INT.</u> <u>@ 12.5%</u>
1st Year	1st	0.00	0.00		0.00	0.00	
	2nd	0.00	0.00		0.00	0.00	
	3rd	0.00	0.00		0.00	0.00	
	4th	3.75	0.19	0.19	3.56	0.11	0.11
2nd Year	1st	3.56	0.19		3.38	0.11	
	2nd	3.38	0.19		3.19	0.10	
	3rd	3.19	0.19		3.00	0.09	
	4th	3.00	0.19	0.75	2.81	0.09	0.39
3rd Year	1st	2.81	0.19		2.63	0.08	
	2nd	2.63	0.19		2.44	0.08	
	3rd	2.44	0.19		2.25	0.07	
	4th	2.25	0.19	0.75	2.06	0.06	0.29
4th Year	1st	2.06	0.19		1.88	0.06	
	2nd	1.88	0.19		1.69	0.05	
	3rd	1.69	0.19		1.50	0.05	
	4th	1.50	0.19	0.75	1.31	0.04	0.20
5th Year	1st	1.31	0.19		1.13	0.04	
	2nd	1.13	0.19		0.94	0.03	
	3rd	0.94	0.19		0.75	0.02	
	4th	0.75	0.19	0.75	0.56	0.02	0.11