

PROJECT REPORT ON
MUSHROOM FARMING (OYSTER)



SUBMITTED BY

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SMGGS-Uttar Pradesh

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C O N T E N T S

CHAPTER NO.	PARTICULARS	PAGE NO.
I.	HIGHLIGHTS OF THE PROJECT REPORT	
	A. About the Promoter	3
	B. Project Profile	4
II.	PROJECT DESCRIPTION	5
III.	MARKET POTENTIAL	6
IV.	EXTENSION ACTIVITIES	7
V.	SWOT ANALYSIS	8
VI.	ECONOMICS OF THE PROJECT	
	A. Basis & Presumptions	10
	B. Total Cost of Project	11
	C. Means of Finance	12
	D. Projected Profitability	13
	E. Financial Analysis	14
	F. Term Loan Repayment	15

CHAPTER - I**HIGHLIGHTS OF THE PROJECT REPORT****A. ABOUT THE PROMOTER**

PARTICULARS	ABOUT THE PROMOTER
1. Name	: Dhanraj D
2. Address	: Rampur, Uttar Pradesh
3. Contact number	: 9959967625
4. Date of birth	: 6.2.1980
5. Educational qualification	: Master in food science
6. Project location	: Rampur, Uttar Praedsh
7. Professional Experience	: 2 years
8. Constitution	: Proprietorship

B. 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	1,336,625
5. Bank loan	1,002,469
6. Margin money	334,156
7. Financial Indicators	
BCR at 15% DF	2.24:1
NPW 15% DF(Rs.)	2,738,396
IRR (%)	86.59
DSCR	4.23
8. Interest rate (% per annum)	12
9. Repayment period	5 years

CHAPTER - II

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 ipil-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.

CHAPTER - III

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.

CHAPTER - IV

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.

CHAPTER - V

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.

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- 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.

CHAPTER - VI
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.	50
3. Quantum of paddy/wheat straw required	(qt./cycle)	200
4. Quantity of spawn required per cycle	Kg.	300
5. Labour requirement per cycle	mandays	100
II. Economic Parameters		
1. Cost of construction of crop room(40 x 20 x 12 ft)	Rs./sq.ft.	350
2. Cost of Paddy Straw	Rs./quintol	100
3. Cost of polythene bag	Rs./kg.	100
4. Cost of Spawn	Rs./kg.	50
5. Labour wage rate	Rs./manday.	250
6. Yield per cycle	Kg.	9,500
7. Sale Price	Rs./kg.	50

B. TOTAL COST OF PROJECT

PARTICULARS	UNIT	UNIT RATE Rs	QUANTITY	AMOUNT Rs.
I. Capital Cost				
1. Land and Site Development				
Land				Own
Site development	Ls.			10,000
2. Building				
Cropping room	Sq.ft	350	1,000	350,000
Bulk pasturization chamber	Sq.Ft.	350	1,000	350,000
Composting platform	Ls.			50,000
Laboratory	Sq.ft	350	250	87,500
Store Room	Sq.ft	350	250	87,500
Office room	Sq.ft	350	250	87,500
3. Machinery & Equipments	Ls.			50,000
4. Furniture	Ls.			100,000
5. Contengencies	%	5		<u>58,625</u>
			TOTAL-A	1,231,125
II.Working Capital (One Crop Cycle requirement)				
1. Mushroom spawn	Kg.	50	300	15,000
2. Paddy/wheat straw	Rs./quintol	200	200	40,000
3. Cost of bavistin & formaldehyde	Lumpsum			500
4. Urea, chicken manure, wheat barn, gypsum	Lumpsum			10,000
5. Polythene bags(125- 150 guaze thick of 60 * 45 cm)	kg.	100	50	5,000
6. Miscellaneous(pesticides, small polythene bags for packing etc.)	Lumpsum			2,000
7. Fule/power cost, water	Lumpsum			2,000
8. Labour charges	Mandays	250	100	25,000
9. Marketing expenses	Lumpsum			5,000
10.Transportation	Lumpsum			<u>1,000</u>
			TOTAL-B	105,500
TOTAL COST OF PROJECT	Rs.		TOTAL (A+B)	1,336,625

C. MEANS OF FINANCE

PARTICULARS	UNIT	UNIT RATE	AMOUNT Rs.
1. Term loan	%	75	1,002,469
2. Own contribution	%	25	<u>334,156</u>
		TOTAL	1,336,625
3. Subsidy entitlement @36% from NABARD under AC & ABC Scheme			481,185

D. PROJECTED PROFITABILITY

(Value in Rs.)

PARTICULARS	UNIT	UNIT RATE	QUANTITY	IYEAR	IIYEAR	IIIYEAR	IVYEAR	VYEAR
I. INCOME								
Capacity utilized	%			75	90	100	100	100
Yield per cycle	Kg.	50	9,500	356,250	427,500	475,000	475,000	475,000
Yield per annum (no. of cycle per annum 3)	Rs.			1,068,750	1,282,500	1,425,000	1,425,000	1,425,000
Interest on subsidy @ 6%				28,871	28,871	28,871	28,871	-
Subsidy				-	-	-	-	481,185
			TOTAL	1,097,621	1,311,371	1,453,871	1,453,871	1,906,185
II. EXPENDITURE								
1. Mushroom spawn	Kg.	50		45,000	49,500	49,500	49,500	49,500
2. Paddy/ wheat straw	Rs./quintol	100		120,000	132,000	132,000	132,000	132,000
3. Cost of bavistin	/cycle	500		1,500	1,500	1,500	1,500	1,500
4. Urea,chicken manure,wheat barn,gypsum	/cycle	10,000		30,000	33,000	33,000	33,000	33,000
5. Polythene bags (125-150 guaze thick of 60*45 cm)	/cycle	5,000		15,000	16,500	16,500	16,500	16,500
7. Fuel/power cost,water	/cycle	2,000		6,000	6,000	6,000	6,000	6,000
8. Lalbour charges	/cycle	25,000		75,000	82,500	82,500	82,500	82,500
9. Marketing expenses	/cycle	5,000		15,000	15,000	15,000	15,000	15,000
10. Transportation	/cycle	1,000		3,000	3,300	3,300	3,300	3,300
			TOTAL	316,500	345,300	345,300	345,300	345,300
III. NET INCOME				781,121	966,071	1,108,571	1,108,571	1,560,885

F. FINANCIAL ANALYSIS*(Value in Rs.)*

PARTICULARS	I YEAR	II YEAR	III YEAR	IV YEAR	V YEAR	TOTAL
Capital costs	1,231,125					
Recurring costs	316,500	345,300	345,300	345,300	345,300	
TOTAL COST	1,547,625	345,300	345,300	345,300	345,300	
Benefit	1,097,621	1,311,371	1,453,871	1,453,871	1,906,185	
Depreciated value of buildings @10%					439,125	
Depreciated value of equipments & furniture @15%					64,275	
TOTAL BENEFIT	1,097,621	1,311,371	1,453,871	1,453,871	2,409,585	
NET BENEFIT	-450,004	966,071	1,108,571	1,108,571	2,064,285	
Discounting Factor @15%	0.87	0.76	0.66	0.57	0.5	
NPV cost at 15% DF	1,346,434	262,428	227,898	196,821	172,650	2,206,231
NPV benefits at 15% DF	954,930	996,642	959,555	828,707	1,204,793	4,944,626
NPW at 15% DF	2,738,396					
BCR at 15% DF	2.24:1					
IRR%	86.59					

G. TERM LOAN REPAYMENT

Rate of interest - % per annum : 12

Opening balance of term loan : 1,002,469

(Value in Rs.)

Year	Loan Outstanding	Net Income	Principal	Interest	Total Repayment	Net Surplus	DSCR
1	1,002,469	781,121	200,493	120,296	320,789	460,332	2.4
2	801,976	966,071	200,493	96,237	296,730	669,341	3.3
3	601,483	1,108,571	200,493	72,178	272,671	835,900	4.1
4	400,990	1,108,571	200,493	48,119	248,612	859,959	4.5
5	200,497	1,560,885	200,493	24,060	224,553	1,336,332	7.0
						Average DSCR	4.2