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Economic viability of oyster mushroom cultivation

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Economic viability means economic feasibility i.e. a project that provides an overall positive net **economic** contribution to society after all costs and benefits have been accounted for. This includes social, environmental and financial costs and benefits to society. Costs and benefits are expressed as far as possible in monetary terms so that they can be compared on an equal level. A project is assessed as economically **viable** if the project benefits exceed the project costs.

The break-even point (BEP) or break-even level represents the sales amount—in either unit (quantity) or revenue (sales) terms—that is required to cover total costs, consisting of both fixed and variable costs of the company. Total profit at the break-even point is zero. This means that the selling price of the good must be higher than what the company paid for the good or its components for them to cover the initial price they paid (variable costs). Once it surpasses the break-even price, the company can start making a profit.

An economic viability study was conducted for oyster mushroom production units. A number of oyster mushroom production units were visited in Maharashtra and Manipur for conducting the study. Data was also obtained for some other oyster mushroom production units located in Chattisgarh, Madhya Pradesh and Uttarakhand. Economic analysis of the farms was done in terms of their sizes and eventually three sized farms have been suggested after conducting their economic analysis and break-even point analysis.

Module 1.

Module 1 has been prepared for a shed of size 40x50x10ft. Which can accommodate 5000 bags of 4 kg each. The total Fixed cost for the unit (including pasteurization chamber of size 18x6x13 ft) is Rs. 5,80,000/- and the total variable cost is Rs. 1,46,000/-. It would utilize 7 tonnes of paddy straw and 700kg of spawn. Total production estimated is 4,900 kg and if

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average selling price of mushroom is taken as Rs.100/- per kg, the total returns are estimated as Rs. 4,90,000. In one cropping cycle, the Cost Benefit (CB) ratio is 0.67 and in two cropping cycles, this ratio goes up to 2.4. The Breakeven point is 8170kg which means that the firm starts making profit after producing 8170kg of mushrooms and that is in the second cropping cycle.

1.	Inputs for a shed (40x50x10)	
	Fixed Cost	
	Cost of shed	3,00,000
	Cost of tunnel (18x6x13)	2,00,000
	Spawning area	25000
	Raw material shed	25000
	Water storage tank	20000
	Thermometer/fogger/ etc.	10000
	Total	5,80,000
	Variable cost	
	Paddy straw (7 T)	21000
	Spawn (700 kg)	49000
	Labour (4L@Rs. 6000 pm)	36000
	Water (28l/kg)	3000
	Chemicals (pesticides, insecticides)	2000
	Electricity	10000
	Packaging & transportation	10000
	Poly bags	5300
	Total	146000
2.	Output	
	Production	4900 kg
	Rate	100
	Return (@100)	490000
	Profit	**-236000**
	CB Ratio	**0.67 (2.4)**

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Module 2.

Module 2 has been prepared for a shed of size 50x16x8ft. Which can accommodate 1800 bags of 4 kg each. The total Fixed cost for the unit is Rs. 55,000/- and the total variable cost is Rs. 58,100/-. It would utilize 2.5 tonnes of paddy straw and 250kg of spawn. Total production estimated is 1750 kg and if average selling price of mushroom is taken as Rs.100/- per kg, the total returns are estimated as Rs. 1,75,000. In one cropping cycle, the Cost Benefit (CB) ratio is 1.54 and in two cropping cycles, this ratio goes up to 2.78. The Breakeven point is 820kg which means that the firm starts making profit after producing 820kg of mushrooms and that is in the first cropping cycle.

1.	Inputs for a hut (50x16x8)	
	Fixed Cost	
	Cost of hut	40,000
	Water storage tank	10,000
	Thermometer/fogger/ etc.	5000
	Total	55000
	Variable cost	
	Paddy straw (2.5 T)	17500
	Spawn (250 kg)	17500
	Labour (2L@Rs. 6000 pm)	15000
	Water (28l/kg)	1100
	Chemicals (pesticides, insecticides)	1000
	Electricity	500
	Packaging & transportation	3500
	Poly bags	2000
	Total	58100
2.	Output	
	Production	1750
	Rate	100
	Return (@100)	175000

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	Profit	61900
	CB Ratio	1.54

Module 3.

Module 3 has been prepared for a shed of size 30x20x8ft. Which can accommodate 1200 bags of 4 kg each. The total Fixed cost for the unit is Rs. 55,000/- and the total variable cost is Rs. 43,850/-. It would utilize 1.6 tonnes of paddy straw and 160kg of spawn. Total production estimated is 1150 kg and if average selling price of mushroom is taken as Rs.100/- per kg, the total returns are estimated as Rs. 1,15,000. In one cropping cycle, the Cost Benefit (CB) ratio is 1.16 and in two cropping cycles, this ratio goes up to 2.35. The Breakeven point is 887kg which means that the firm starts making profit after producing 887kg of mushrooms and that is in the first cropping cycle.

1.	Inputs for a hut (30x20x8)	
	Fixed Cost	
	Cost of hut	40,000
	Water storage tank	10,000
	Thermometer/fogger/ etc.	5000
	Total	55000
	Variable cost	
	Paddy straw (1.6 T)	11200
	Spawn (160 kg)	11200
	Labour (2L@Rs. 6000 pm)	15000
	Water (28l/kg)	900
	Chemicals (pesticides, insecticides)	1000
	Electricity	500
	Packaging & transportation	2250
	Poly bags	1800
	Total	43850

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2.	Output	
	Production	1150
	Rate	100
	Return (@100)	115000
	Profit	16150
	CB Ratio	1.16

The study shows that these three modules are the best in terms as far as the sizes of the huts are concerned in and give maximum profitability for oyster mushrooms. Hence farmers are advised to go for any of these three sizes when starting oyster mushroom production.