



**Detailed Project Report for establishing common Incubation
centre for processing Minor Forest Produce
(Bamboo shoot, Mahua, Honey, Mushroom)**

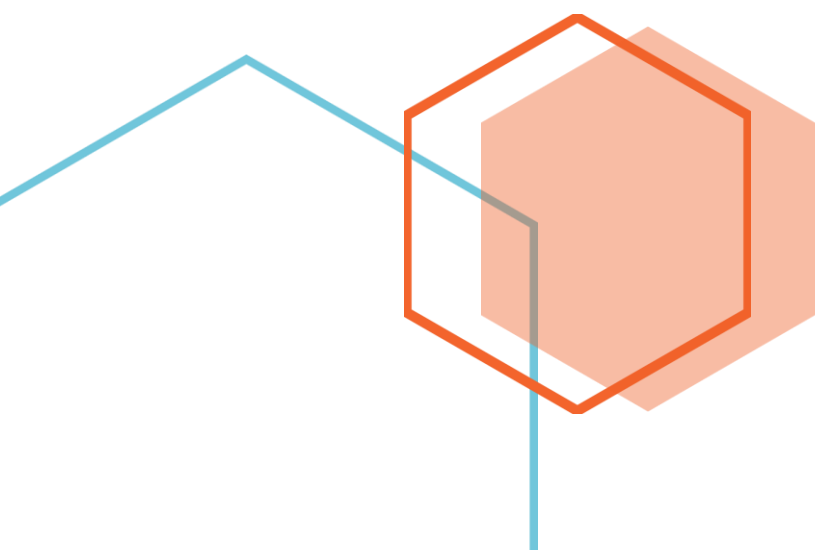
Submitted to

Ministry of Food Processing Industries

PM-FME

Submitted by

12.2020



S. No	Details of host institute	
1	Name of the host institute	
2	Institute head	
3	Email id and contact number	
4	Government/private	
5	If private the percentage contribution for establishing the common incubation facility?	
6	Registration details (for private agency)	
7	Name of the mentor institute	
8	Incubation center applied for (which processing line)	
9	Building/space available for the proposed incubation center	
10	Whether the space available for incubatee /startups in the proposed building	
11	If Yes, give the details If No, propose the plan	
12	Existing facility for the proposed common incubation center	

13	Activities carried out currently	
14	List of existing equipment available for the proposed incubation center	
15	Does the host institute requires upgradation of the existing facility	
16	If yes , address the gap	
17	If upgradation required, cost required for the same	
18	Is food testing facility available at the host institute	Flooring has to be made according to FSSAI standards. Electrical and plumbing works has to done to facilitate functioning of incubation centre
19	If No, mention the equipments required with cost	
20	List out the GMP / GHP Practices to be followed in the proposed incubation center.	
21	Measures to be adopted for human / food safety	
22	Expertise in the relevant processing	
23	Modality to fix the external agency to run the common incubation centre	
24	Modalities for fixing commercial charges to run the facility	
25	Suitability of the proposed facility for processing other commodities	

26	Will the host institute provide water, electricity to run the common incubation facility	
27	Annual Maintenance Plan for the machineries installed at incubation centre	
28	Expected number of entrepreneurs to be benefitted through incubation center per year	

29. Justification for the proposed facility at the Host Institute (Modify as per the proposal)

North-East India is endowed with abundance of natural resources and minor forest produce like mushroom, bamboo shoot, honey are few of such resources. One extensive use of bamboo in this region is the usage of young shoots as food. Bamboo shoots are the young, edible bamboo plants that have just emerged from the ground. Bamboo shoots are low in fat and calories but rich in fibre with about 90% water. Fresh shoots have a crisp and sweet flavour with limited shelf life and have to be sold immediately. The peak availability period is June to October. The shoots are usually harvested when they attain the height of 15-16 cm. In north-east India, bamboo shoot is consumed either raw or processed because of its exotic taste and flavour. Many nutritious and active materials- such as vitamins, amino acids and anti-oxidants such as flavones, phenols and steroids are present in the bamboo shoots.

Such forest produce are valuable in pharmaceutical and food processing industries and can be processed into beverages, medicines, additives or health foods. Being a lesser-known food product, these forest produce processing has potential to be developed as an innovative and promising enterprise. Considering the potential shoot processing has potential to be developed as an innovative and promising enterprise. Considering the potential market opportunity of such units, the present detail project report has been developed. The main objective of such initiative is to productively utilize the abundantly available resources of the local area and to enable uninterrupted supply of the products to market throughout the year.

30. Map of the Host Institute showing accessibility for transport and market

31. Plan for upgrading/setting the proposed facility

(Details of space available, machineries required with cost and capacity)

- i. Land required for setting the proposed plant: 6900 sq. ft
- ii. Approximate cost: 246.9

A.The possible processing lines that can be established for common incubation facility is given below with the details and cost of machineries required for processing of Minor Forest Produce.

Cost for the proposed minor forest produce processing facility

S. No	Processing Lines	Machineries required for Processing	Capacity	Cost (in Lakhs)	Quantity
1	Primary Processing of Bamboo Shoot				
		Cleaner	40-50 Kg/hr	1.5	1
		Slicer	40-50 Kg/hr	2	1
		Boiler	100lit	5	1
		Steamer/ Blancher	150 kg/hr	1	1
		Tray Drier	40- 50 Kg/hr	2	1
			Sub-total	11.5	
2	Secondary Processing of Bamboo Shoot				

	Bamboo Shoot Powder	Pin Mill	40- 50 Kg/Hr	1.5	1
		Sieve Shaker	40- 50 Kg/hr	1	1
		Form Fill Seal Machine for Bamboo Shoot powder	40- 50 Kg/hr	5	1
		Sub-total		7.5	
	Bamboo Shoot Pickling	Frier	40- 50 kg/batch	2	2
		Storage (SS 304) containers/bins	200 Kg/hr	1	4
		Sub-total		3.0	
	Bamboo Shoot Canning	Can Seamer	200 cans/ hour	1	2
		Can Reformer	200 cans/ hour	2	2
		Can Exhaust machine	400 cans/ hour	5	2
		Sub-total		8.0	
3	Minimal processed mushroom (Milky mushrooms), marinated mushrooms (Porcini Mushrooms) and cured mushroom (Oyster Mushrooms)				
		Steving and sorting systems	100 kgs/h	1.5	1

		Rotary rod washer with spray	100 kgs/h	2.5	1
		Vibro screen	2 hp	1	1
		Spin water dryer (multi deck conveyor dryer with steam used as hot air source)	100 KGS output capacity	3	1
		Hydraulic forklift truck		2.5	1
		Mushroom cutting machine		1	1
		Pasteurizer		8	1
		Tray packing machine (with MAP unit)		12	1
			Sub-total	31.5	
4	Dried mushroom and mushroom powder (Paddy Straw Mushrooms)/Mahua powder processing				
		Tub bubble washer	100 KGS/HR	4	1
		Vibro screen	2 HP	3	1
		Blanching unit consist of 3 SS tanks, 3 trays	SS tanks (380X1140mm), SS bottom trays (1015mmX350mmX180 mm), SS top trays (30mmX12mm) 1 HP	6	2
		Polycarbonate Solar tunnel drier (fixed type) 700sq.ft.	100 KGS/BATCH per drier	8	1

		Cooling chamber (0 / -20DC 6X5m)	2TONNES, area 1500 cu Ft	6	2
		SS tilting type steam jacketed double wall kettle	100KGS	1.8	2
		Fixed type tunnel type drying chamber 1200sq.ft.	100 KGS/BATCH	8	1
		Pulverizer with accessories (SS hammer mill with rotary air lock, cyclone, duct collection bag filter of 2 sets, one for coarse milling and another one for fine milling)	100 KGS/H	5	1
		Air classifier	100 KGS/H	2	1
		Screener and sifter		2	1
		Powder collecting bin	0.5 HP	1.5	1
			Sub-total	26.3	
5	Juice concentrates/ Squash/ RTS from Mahua				
		Automatic dosing hoppers	100 Kgs/Hr	4	1
		Juice extractor	100 Kgs/Hr	4	1
		Storage tank with agitator	100 Kgs/Hr	1.5	1
		Piston pump	100 Ltrs / Hr	0.4	2
		Plate & frame filter press	100 Ltrs / Hr	2.5	1
		Storage tank with agitator	100 Ltrs	5	4

		S.S. feed pump	100 Ltrs / Hr	0.5	2
		Steam jacketed kettle	100 Ltrs / Hr	1.25	1
		Homogenizer	100 Ltrs / Hr	5	1
		UHT juice line	100 Ltrs / Hr	9	1
		Cooling tunnel [optional]	600 Btls / Hr	5	1
	Packaging unit	Counter pressure bottling line (rinser/ fillers/capper/triblocs or corks & capping equipment)	900bottles/Hour	12	1
		Pressure sensitive bottle labeler	1.5hp	8	1
		Weighing, filling and sealing pack unit	100kgs/Batch	8	1
		Weighing machine	1-5kg. 100 Kg, 1g-1kg	1	1
			Sub-total	67.15	
6	Processing of Honey				
	Packed Honey in bottles of different sizes	Receiving SS Tank	750 l		
		Primary Filter Shell	25l	0.56	1
		Gear Pump With Motor Capacity: 130 LPM Diff. Head: Max. 10 kg/cm Motor: 5.0 HP (3.7 kw)	30l/min	0.95	1

		Bag Filter (Dual Type)		1.57	1
		Moisture Reduction Tank		9.65	1
		Jacketed Storage Tank		6.16	2
		Modular Frame Material of construction (MOC): MS		0.95	1
		Hot Water Boiler (Wood Fired) MOC: SS MS		1.57	1
		Pipes & Fittings		1.57	1
		Semi-Automatic Single head Machine To fill viscous products		3.47	1
			Sub-total	26.45	
	Food Testing facilities	Estimation of protein, fat and other proximate analysis, Gun Thermometer, Refractometer, pH meter, Moisture meter		25	
7	Accessories				
		Pouch Sealing Machines	200 Pac/hr	2	2
		Bottle Sealing Machines	200 bottle/hr	2	2
		Hand Fork lifter/ trollies	100 kg/ Hour	0.5	5
		Hygiene station/Air curtains		2	
		Packaging Machine	200 Kg/hr	10	1

		Weighing balance	1kg to 100kg	0.5	1
		Boiler	100lit	2.5	1
		Solar drier	poly carbonate 500sqft	3	1
		Carboy barrels 1.200x1.000 mm		2	50
		Wooden palettes, prefabricated metal boards		0.5	1 LOT
		Modular kitchen		5	
			Sub-total	30	
8	Safety Measures				
		Pollution control equipments discharge of water treatment tanks		0.5	1 LOT
		Dust collector		1	1
		Metal detector		5	1
		Fire extinguiser		2	4
		Air curtains and film curtains		2	4
			Sub-total	10.5	
			Total	246.9	

B. Waste Management/ By- Product Utilisation

C. Waste Disposal

Whether the host institute has Effluent treatment / Solid Waste management facility ?				
1	If yes, the same can be utilized for waste management of the proposed incubation center?			
2	If No, Propose the plan for waste management from the incubation center.			

Summary of the cost break up

S. No	Processing Lines	Approx (Cost in lakhs)
1	Primary Processing of Bamboo Shoot	11.5
2	Bamboo Shoot Powder Processing	7.5
3	Bamboo Shoot Pickling	3.0
4	Bamboo Shoot Canning	8.0
5	Minimal processed mushroom	31.5
6	Dried mushroom and mushroom powder/Mahua powder processing	26.3
7	Secondary processing of Mahua into beverage	67.15
8	Processing of Honey	26.45

9	Food testing facility	25.0
10	Accessories	30.0
11	Safety measures	10.5
Total		246.9

32. Can the facility be utilized to process other crops. If so, list the allied products that can be processed at the centre?

33. Will the host Institute make use of the machines already available for the proposed incubation centre?

34. Feasibility report for commercially running the Common incubation facility

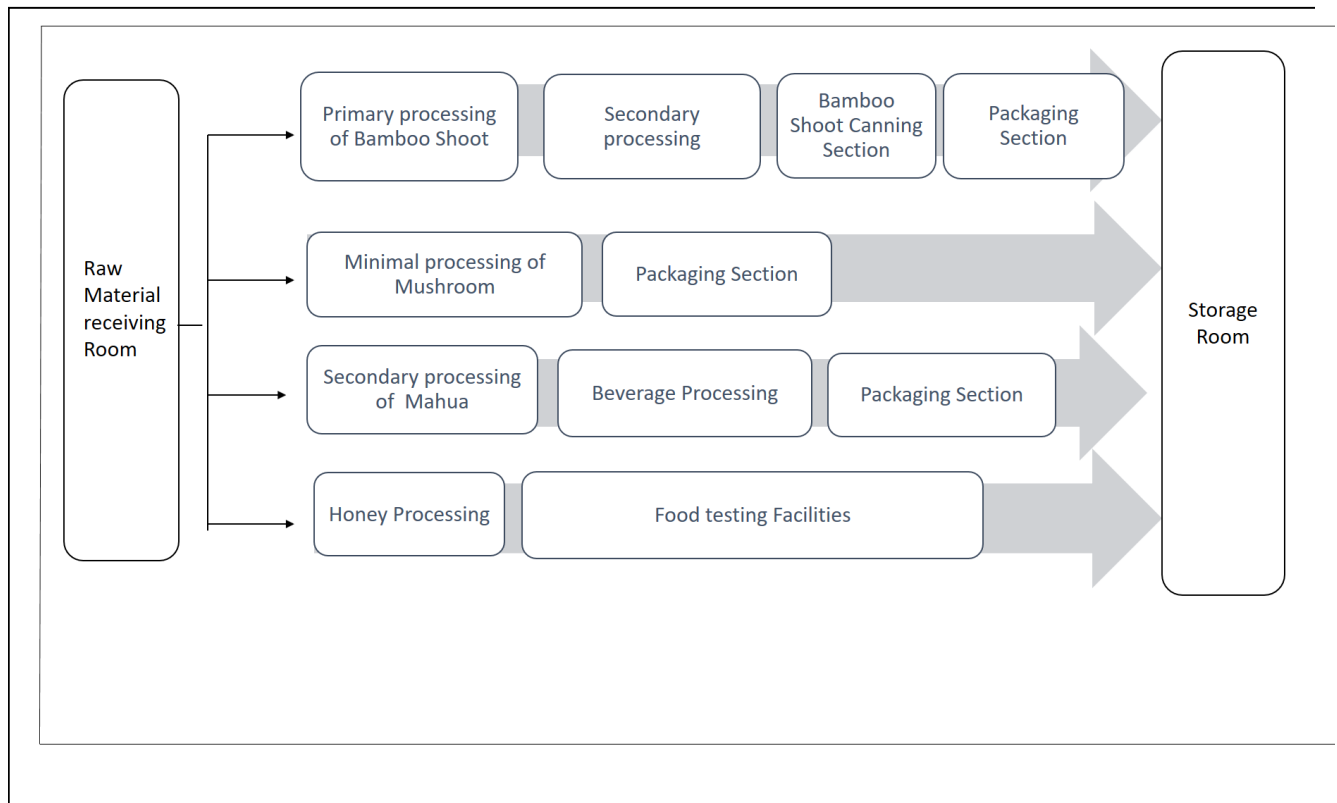
(To be provided by Host Institute)

- a. Business plan for running the common incubation centre
- b. Minimum 5 years of Operating plan should be provided.
- c. Man power requirement
- d. Minimum operational hours/ days per year
- e. Operational cost involved (water, electricity, raw material cost, fuel charges)
- f. Fixation of utility charges
- g. Details of the agency identified to run the proposed incubation facility

h. Tripartite agreement format to be signed by private agency, state level nodal agency and the Host Institute

35. Layout for the proposed facility

Incubation centre Plant layout



36. Recommendation of SNA with Signature

37. Signature of the Head of the SLTI/ Host Institute with Designation.