Detailed Project Report for Establishing Common Incubation Facility for Dairy Processing, Fruits & Vegetables processing

Submitted to

Ministry of Food Processing Industries

PM-FME

Submitted by

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_____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 and space available for the proposed incubation facility	
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	
12	If Yes , address the gap	
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**	Flooring has to be made according to FSSAI standards. Electrical and plumbing works has to done to facilitate functioning of incubation centre
17	**If upgradation required, cost required for the same**	
18	**Is food testing facility available at the host institute**	
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 entreprenurs to be benefitted through common incubation facility per year**	400 – Milk 200 – Milk Based Product

30. Justification for the proposed facility at the Host Institute (Modify as per the proposal)
(Raw material, nearness to market, expected demand)

Milk production is a very important part of the agricultural economy in the state of Punjab. Milk production in Punjab is increasing throughout the year in spite of decrease in bovine and ovine population. The reason being is that government is taking much more emphasis on the breed improvement of dairy animals with this advancement DAHD operating 18 central livestock organizations and allied institutions. The milk production was increased from 3.22 million tonnes to 10.01 million tonnes from 1980-81 to 2013-14 with a growth rate of 3.48 per cent per annum. The % share of Punjab in the central pool was decreasing over the years. The capability of Bathinda dairy cooperative to accomplish its full productive potential is affected by the availability and quality of extension services being delivered to the farmers apart from the mobilization of its resources and economic growth. Therefore, to encourage farmers to adopt dairy as an entrepreneur, a technically advanced incubation center is necessary to avail common services for the farmer entrepreneurs.

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

32. 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 : 6600 sq.ft

ii. Approximate cost: 275.25 lakhs

Cost break up for machineries for proposed processing line as expressed by FPOs

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 Dairy, Fruits & Vegetables:

Cost for Dairy processing and Fruits & Vegetables processing					
S.No	Crop Processing Line	Machineries required for processing	Qty	Cost in Lakhs*	Capacity
1	Milk Pasteurization (Market Milk Section)				
		Modular Milk Pasteurizer provided with balance	1000 L/hr	25	1
		Homogenizer	1000 L/hr	8.5	1
		Cream Separator	250 kg/hr	7.5	1
		Liquid Milk Packaging Machines	500 L/ hr	12.5	1
			Sub-total	53.5	
2	Fat rich Dairy Products Section				
		Butter Churner	100 kg/h	8.0	1

		Ghee Kettle Double Jacketed operated with steam	200 kg/h	4.5	1
		Butter Packaging Machine		7.5	1
	Accessories for dairy processing	Cold Room	1	10.0	1
		Storage racks	5	1.00	1
		Refrigerator	3	0.75	2
		Lactometer, Gerber apparatus, Utensils, storage containers		10	
			Sub-Total	41.75	
3	Primary Processing of Fruits & Vegetables				
		Washing- bubble washing, roller washing with slant conveyer belt or jet washing mechanism/ washing tub with conveyor roller system	500 Kg/hr	10	1
		Curing facility	500kg	3	1
		Precooling	250Kg/h	4	1
		Size Grader	250 Kg/h	5	1
		Cold storage 5 deg C	1000kg	5	1
		Multifunctional Vegetable Cutters	300-500/h cap	5	1
			Sub-total	32.00	
4	Juice & Beverages Processing Section				

		Fruit pulper cum finisher	200 Kg/h	4	
		Hellicolloidal juice extractor	500 Kg/h	10	
		Raw juice collection tank	200 l	1.5	
		Raw juice screw transfer pump for automatic delivery	100l/h	5	
		Blending Tank with agitator	200 l	6	
		Homogenizer	200 ltr/h	1	
		Tube in tube filter for automatic delivery	200 ltr/h	1	
		Processed juice collection tank	200 l	1.5	
		Processed juice transfer pump	100l/h	10	
		Tubular pasteurizer with all accessories and fittings	200 l/h	10	
		PET bottle rinsing / washing machine	100 bottles/min	2	
		Piston filler with capping provision	100 l/h	5	
		Cooling tank	500 l	3	
		Labelling and printing system	100 bottles/min	5	
			Sub- Total	65	
5	Paste Making Section				
		Ginger washer	50kg/ batch	3	1

		Ginger slicer	100kg/ batch	4	1
		Garlik clove seperator	200kg/hr	2	1
		Garlic peeler	40 kg/hr	2	1
		Ginger garlic paste pulverizer	100kg/hr	3	1
		Pouch packaging machine -band sealer	100/hr	2	1
		Onion Detopper	500 Kg/h	5	1
		Onion Grader	1.5 ton/h	2	1
		Onion slicer	200 Kg/h	2	1
		Chilli destalking machine	200 Kg/h	5	1
		Blancher	200 Kg/h	3	1
		Pouch / Spout Packaging machine for different capacities	100-500 pouches/h	15	1
			Sub-Total	48	
6	Food Testing Facilities			25	
7	Accessories	Stove, cutter, spoons, utensils, storage racks, work tables		10	
			Grand Total	275.25	

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	Milk Pasteurization Section	53.5
2	Fat rich dairy products section Accessories for dairy processing	41.75
3	Primary Processing of fruits & Vegetables	32.00
4	Juice & Beverage Processing Section	65.00
5	Paste Making Section	48.00
6	Food testing facilities	25
7	Accessories	10
	Total	275.25

33.Can the facility be utilized to process other crops. If so, list out the allied crops that can be processed at the 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 center

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, salary, etc.,)

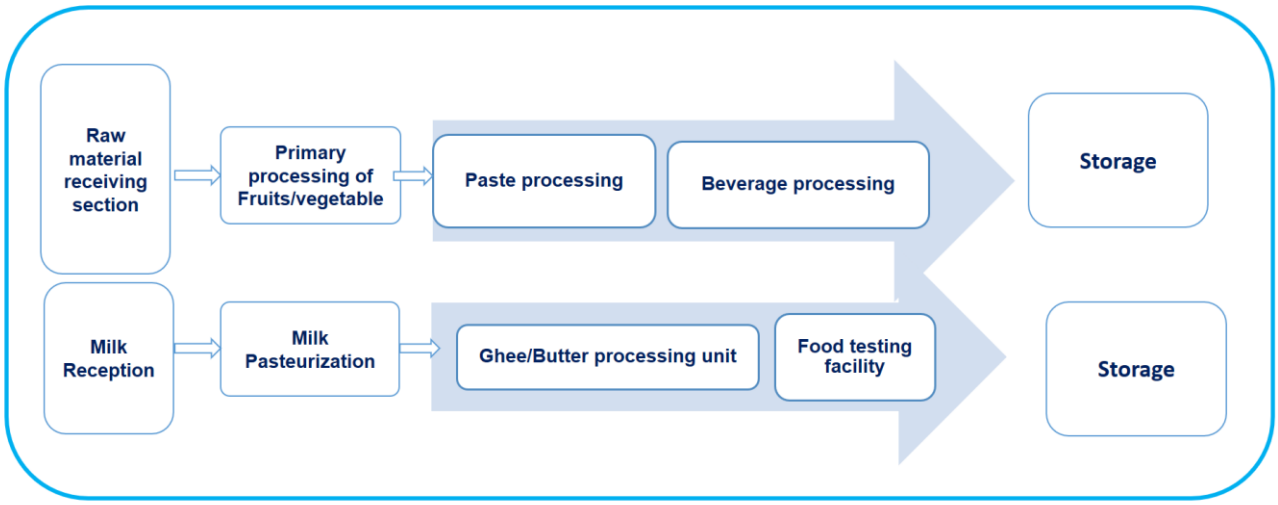
f. Fixation of utility charges

g. Details of the agency identified to run the proposed incubation facility

h. Tripartite agreement format to be signed by private agency, stale 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.

Detailed Project Report for establishing common incubation center for processing food grains, millets and spices

Submitted to

Ministry of Food Processing Industries

PM-FME

Submitted by

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_____12.2020_____

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20	**List out the GMP / GHP Practices to be followed in the proposed incubation center.**	
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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)

(Raw material, nearness to market, expected demand)
The Host Institute is located near delta region and where large number of farmers are involved in agriculture. Food products are available throughout the year and the farmers are engaged only in primary processing. The awareness on value addition of food crops is minimum among the farmers and the post-harvest losses increase due to improper facility and knowledge on processing. Hence setting of common incubation centre to process food grains, millets and spices for food processing at the proposed Host Institute can support many farmers in this region to utilize the facility and improve their economy by minimizing post-harvest losses.

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)

On discussion with farmers, FPOs/SHG, the Host Institute proposes to set incubation centre for processing multi food commodities. Accordingly, the land requirement, processing lines, machineries and the respective cost obtained from Expert institutes are given below.

i. Land required for setting the proposed plant: 6900 sq.ft

ii. Approximate cost: 270 lakhs

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 Millets, Food grains and Spices:

Cost for Processing of millets/grains/spices*					
S.No	**Crop Processing Line**	**Machineries required for processing**	**Qty**	**Cost in Lakhs***	**Capacity**
1	**Primary Processing Line for Small Millets (Foxtail, Barnyard, Proso, Little, Kodo and Browntop Millets**				
	Primary Processing of Minor millet	Cleaning cum De-stoner cum Grader	200 - 250 Kg/hr	3.5	1

	(Foxtail, Barnyard, Proso, Little and Kodo millet)	De-huller	200 - 250 Kg/hr	3.0	1
		Grader cum Aspirator/Gravity Separator	200 - 250 Kg/hr	3.0	1
		Packaging Machine	500-1000 packs/hr	7.5	1
		Weighing Balance	1 -50 Kg Range	0.5	1
		Polisher	200 - 250 Kg/hr	5.0	1
		Tray Dryer	96 trays	5.0	1
		Color Sorter	250 kg/hr	4.0	1
		Packing Line (Band Sealer)	500-1000 packs/hr	0.5	1
			Sub-total	32	
2	Primary Processing Line for Major Millets (Sorghum, Pearl and Finger Millets)				
	Primary Processing of Major millets (Finger, Jowar and Pearl Millet)	Cleaning cum De-stoner cum Grader	200 - 250 Kg/hr	3.5	1
		Grader cum Aspirator/Gravity Separator	200 - 250 Kg/hr	3.0	1
		Packaging Machine	500-1000 packs/hr	7.5	1
		Weighing Balance	1 -50 Kg Range	0.5	1
		Polisher	200 - 250 Kg/hr	5.0	1

		Tray Dryer	96 trays	5.0	1
		Color Sorter	250 kg/hr	4.0	1
		Packing Line (Band Sealer)	500-1000 packs/hr	0.5	1
			Sub-Total	29	
3	Secondary Processing: Milling of grains into flour				
	Millet flour & Millet semolina (Coarse, Fine and Medium) made of Sorghum, Pearl Millet, Finger Millet, Foxtail Millet, Kodo Millet, Proso Millet, Barnyard Millet, Little Millet	Flour/semolina line (mini) – Hammer type	250 - 500kg/hr	15.0	1
		Ribbon Blender	150 - 200kg/hr	2.0	1
		Conical Roaster	150 - 200kg/hr	2.0	1
		Packaging Machine (big)	500-1000 packs/hr	10.0	1
		Weighing Balance	1 -50 Kg Range	0.5	1
		Packing Line (Band Sealer)	500-1000 packs/hr	0.5	1
	Processing of rice/wheat into flour	Rice Grinder/pulverizer	250 kg/h	2	1
		Sieve shaker/Sifter	100 kg/h	3.5	3
		Storage tank/bin	250 kg/bin	3	2
		Packaging machine	250 Kg/h	5	1
			Sub-total	43.5	
4	Secondary processing of turmeric / ginger/Chilli/ for spice powder/ curry powder				

		Tray Dryer	96 trays	5.0	1
		Roaster (rotary type)	100 kg/batch	3.00	1
		Micro pulveriser	100 kg/h	10.00	2
		Vibro sifter	100 kg/h	2.00	1
		Blender	50 kg/batch	2.00	1
		Continuous form fill sealing machine	40 packs per min	10.00	2
		Solar Dryers with multi rack tray system	1000 kg/batch	5.00	1
			Sub-total	37	
5	Cold Extrusion Line (RTC)				
	Pasta & Vermicelli made of Sorghum, Pearl Millet, Finger Millet Foxtail Millet Kodo Millet Proso Millet Barnyard Millet Little Millet	Cold extruder	250 Kg/hr	15.0	1
		Steamer	250kg/hr	5.0	1
		Tray Dryer	96 trays	5.0	1
		Packaging Machine (band sealing machine)	500-1000 packs/hr	1.5	1
		Weighing Balance	1 -50 Kg Range	0.5	1
		Packing Line (Band Sealer)	500-1000 packs/hr	0.5	1
			Sub-total	27.5	
6	Processing of Bakery products				
		Planetary mixer	100 kg/h	3	1
		Dough kneader	100 kg/h	2	1

		Dough sheeter	100 kg/h	3	1
		Rotary oven	100 kg/h	5	1
		Bread slicer	100 kg/h	2	1
		Cookies dropper	100 kg/h	5	1
		Weighing Balance	1 -50 Kg Range	1	1
		Packing Line (Band Sealer/Hand sealer)	500-1000 packs/hr	4.0	1
			Sub-total	25	
7	Flaking of millets/food grains				
		Grain Roaster	150kg/hr	5.0	
		Roller flaker	250/hr	10.0	
		Sieving machine	250kg/hr	3.0	
		Tray Dryer	96 trays	5.0	
		Packing machine with nitrogen filling	500-1000 packs/hr	15.0	
			Sub-total	38	
8.	Food testing facilities	Digital refractometer, thermometer, pH meter, other minor instruments, Refrigerator	1 each	25	

9.	Accessories	Stove, baking moulds, trays, cutter, spoons, utensils, racks		10	
10.	Fire safety measures	Fire extinguishers		3	
			Grand Total	270.0	

* As per the cost received from Expert Institutes namely IIT-Kharagpur, IIHR-Bengaluru, IISR-Calicut

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 Minor millet	32
2	Primary Processing of Major millets	29
3	Secondary Processing for Milling of grains into flour	43.5

4	Secondary processing of turmeric / ginger/Chilli/ for spice powder/ curry powder	37
5	Cold Extrusion Line (RTC)	27.5
6	Processing of Bakery products	25
7	Flaking of millets/food grains	38
8	Food testing facilities	25
9	Accessories	10
10	Fire safety measures	3
	Total	270

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

Yes, the proposed facility can be used for:

- Primary Processing: Integrated packing of fresh fruits and vegetables like guava, mango, chilli, tomato
- Primary processing of Millets namely finger millet, pearl millet and Jowar
- Secondary processing of food grains like rice, wheat, major millets, pulses, RTC food mixes into flour
- Secondary processing of spices namely cumin, aniseed, turmeric, pepper and spice mixes into flour
- Bakery products processing line
- Processing of pasta

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

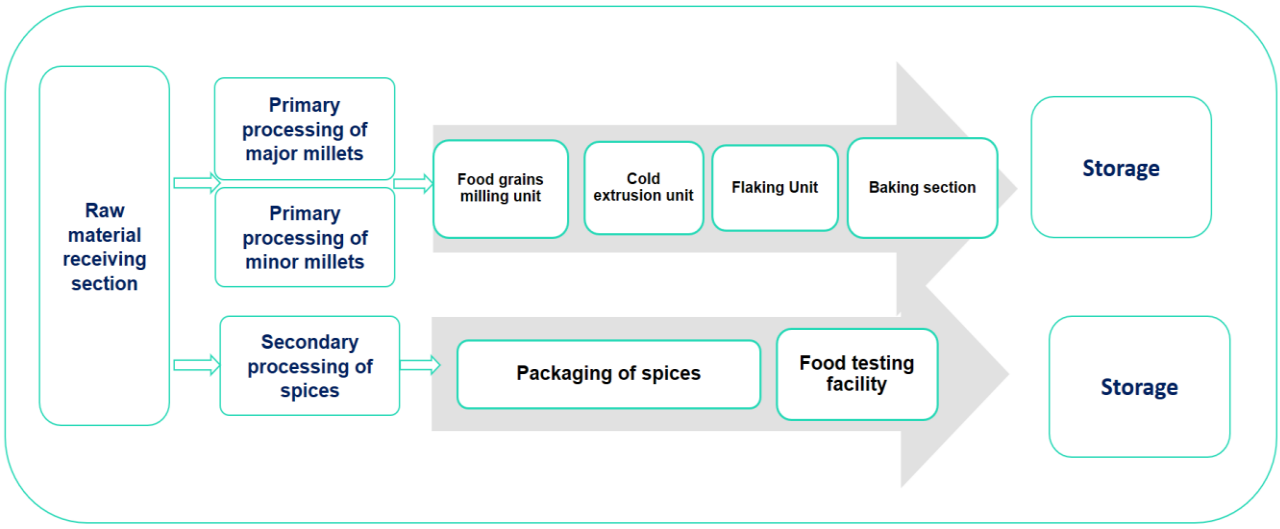
34. Feasibility report for commercially running the Common incubation facility

(To be provided by Host Institute)

a. Business plan for running the common incubation center
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, stale level nodal agency and the Host Institute

35. Layout for the proposed facility

Incubation center Plant layout



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