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## RESEARCH ARTICLE

# POTENTIAL OF MEAT PROCESSING IN INDIA-AN ECONOMIC ANALYSIS

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### ABSTRACT

This paper evaluates the potential of meat processing as a business in India. It analyses and compares the economics and investment feasibility of different meat products. It also compares the feasibility on different size groups of processing plants. The primary data on input use and output yield were taken from studies of NRCM and data was analysed using economic analysis and investment appraisal techniques like NPV, IRR (%), BC ratio, and Break even analysis. The results indicated that Emulsion products requires highest investment (Rs.91 lakhs) on large units compared to other products. Average Cost of production (Rs.411/kg) and resulting selling price (Rs.452/kg) were found to be highest for enrobed products. Feasibility was found to be highest for enrobed products among the products and for large units among the size groups with average Benefit cost ratio of 2.43, IRR of 86%, Return on investment of 42% and Return on equity of 170%. Economies of scale is evident from all perspectives like production costs, profits, discounting measures and breakeven point for all the products. Meat processing was found to be profitable irrespective of product and unit.

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## INTRODUCTION

India enjoys comparative advantage in meat production in the world. It produces 5.94 million tonnes of meat annually [dahd.nic.in] and earns \$4.47 billion from exports of 1.74 MT of meat. [commerce.nic.in]. India being a major producer of meat, has the comparative advantage of Meat processing provides profitable business opportunities for the entrepreneurs. This comparative advantage in meat sector is not exploited to the fullest extent as indicated by the small amount of processed meat (2%) compared to other developed countries where the share of processed meat is more than 60% [APEDA, 2008]. More over the majority of this processed meat is in the form of frozen or fresh meat. The share of processed meat products is very negligible inspite of availability of number of technologies for the production of variety of meat products like emulsion products, cured products, enrobed products and restructured products. Local market is nascent /under developed.

This small share creates large scope for ventures in meat processing sector. More over opportunities also come from consumer side. Meat consumption will further rise due to health consciousness, changing habits, rising incomes etc. As life styles are changing, people switch to processed meat products. Technology side opportunities include standardization and availability of many technologies for a

variety of meat products like Emulsion products, cured products, enrobed products, functional and restructured products [NRCM, 2011] from wide range of species like buffalo, poultry, sheep, goat and pig etc. This gives scope for the selection of products among the alternatives. Depending upon the financial worthiness, one has the choice to select the product. Technical support is also available for setting up of meat processing plants from various institutes like NRCM.

Policy side opportunities include Government support for meat processing under National Mission on Food Processing with the aim of increasing food processing to 25% by 2050 [makeinindia.in]. There are numbers of incentive from central and State Governments for promotion of food industry. The GOI provides subsidy of 25% (50% for North East states) on capital cost (excluding land) with maximum limit of 50 lakhs for processing units (FPTUFS). In an effort to promote food processing industries in India, Government of India is providing various incentives for meat processing industry also. These incentives include financial and non financial measures. Financial measures include providing financial assistance in the form of subsidies through various schemes like credit linked subsidy of NMFP (National mission on food processing) where subsidy to the tune of 25% for general areas and 33% for difficult areas and 50% for North Eastern States [as.ori.nic.in]. Non financial or indirect measures include tax holidays/exemption for the first ears and 25% exemption thereafter. It also provides skill development programmes for the human

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resources/manpower engaged in meat processing. In spite of large scope for growth of this sector, the domestic business players are not able to take advantage of this opportunity largely because of lack of established / proved knowledge on investment viability and profitability of meat products processing plants.

Keeping in view this knowledge gap, an attempt has been made to study the feasibility of meat processing as business venture for different categories of units for different meat products. This can serve as guide for decision making for the entrepreneurs interested in meat processing business.

## **METHODOLOGY**

For taking up of meat processing business, one has to select the product to be produced and the size of the capacity to be installed. Selection of capacity and also product to be chosen depends upon the financial resources available and affordable by the producers as different capacities require different investment and also different products have different investment requirements i.e investment varies with capacity and also product. Hence, depending upon the financial worthiness, one has to select the capacity and product. For this, it is important to have the information on economics of different units and products, so that they can be compared to choose the best one suitable for them. To help the entrepreneurs interested in meat processing business in decision making whether to invest or not in meat processing and how much returns will be generated, we have taken all the products under each category of meat products to compute the at profitability for individual product and also for broad category of products. We have also computed economics for three different types of processing units i.e. small scale, medium scale and large scale units so that entrepreneurs can choose the capacity depending upon his financial strength /affordability. The required data on inputs and outputs and other aspects were collected and was analysed using various economic measures for evaluating the economics of processed chicken meat products. Financial efficiency measures like liquidity ratios, profitability ratios and investment ratios were employed for analysing financial viability of processing plant. Financial feasibility of investment was examined by using the regular project evaluation techniques like Net Present Value (NPV), Internal Rate of Returns (IRR), Benefit –Cost Ratio (B-C ratio), Payback Period etc. Break even analysis was also carried out.

### **Basic Assumptions**

Before appraising the worthiness of any business, one has to have knowledge on some basic information on assumptions under which profitability of processing units is worked out. The results of the profitability are sustained only when these assumptions are met. These assumptions assume significance as variations in these assumptions will change the profitability and viability of meat processing business. These assumptions are related to construction and finance, production, working capital and depreciation. All the results are based on these assumptions. In this study, we have also assumed assumptions regarding these parameters and these basic assumptions are

same across all types of processing units except capacity in production assumptions and raw material holding period in working capital assumptions.

### **Working capital**

Working capital is the amount of expenditure needed to support the business till it supports itself. For working out working capital requirement holding period for raw material, goods in process and holding period for final product has to be considered and the expenditure for that total period has to be worked out which is called as working capital requirement. This working capital varies with size and product. Regarding working capital assumptions raw material holding period of 4 days is taken for small units while 12 days period is assumed for medium and large units for emulsion, cured and restructured products. Final product holding period of 15 days is taken for these products for all units. For enrobed products 4 days and 10 days is considered for raw material and final product holding period respectively for all units. Not only project cost, but also for working capital, banks will provide credit to the tune of 70% of the requirement @ 15% interest and remaining has to be borne by the producer.

### **Production**

One should be clear about yield of products, how much capacity to process per day, how many days a year and what is the capacity utilization to start with and how much to increase in the successive years. Regarding production, it is assumed that the facility will process 30kg/150kg/400kg/day and operate an eight hour shift, six days a week, 50 weeks a year with a capacity utilization rate of 60%, 70%, in the first two years and 80% from third year onwards. *Product yield:* product yield also plays an important role in deciding profitability of processing units. Product yield varies with type of product. In case of emulsion products 90% yield can be obtained for Emulsion Nuggets, Kebab, Meat Balls, Chicken Vada, Chicken Patty (cooked) and Sausage (Cooked). Chicken Samosa Yields 135% and Patty (Enrobed) yields 119% of final output after yield gain of 35% and 19%. For smoked Sausages, 80% output yield is considered after taking smoking loss of 20%. Cured products give yield of 120% for fresh cuts, 108% for cooked cuts, 96% for smoked cuts 86.4% for dual processes cuts after curing gain, cooking and smoking losses. About 90% yield can be obtained from Restructured products as cooking loss is only 10%. These yields are considered for working out capacity and economics of meat products.

### **Means of Finance**

Before starting a business, one should have knowledge on project cost and means of finance. The common means of finance are term loan, subsidy or equity. Financing to food processing falls under priority sector lending. The loans to units meeting the criteria of MSME are classified under MSME sector. State financial or industrial development corporation and even commercial banks offer term loan against project cost. Important terms and conditions of financing such units are discussed in this section. Repayment terms vary with institutions and with schemes.

### **Bank loan**

It is compulsory to take bank loan to avail various subsidy schemes of government [6]. Lending of up to 75% is available on these projects by commercial banks with maximum repayment period of 7 years under MSME loans. Banks provide credit for land development, purchasing machinery and equipment, escalation and contingencies etc. Interest varies with the banks. Most of the banks provide credit at 12% interest on term loan. For working capital banks charge 15% interest.

### **Margin money**

The promoters of the units need to contribute towards margin as per the requirement of financing banks and also as per RBI guideline issued from time to time. The margin money varies from time to time and among the banks and also it varies with type of project. A minimum 10 per cent to 25 per cent of project cost is set up by the banks as margin money. In this model plant, we have assumed margin money of 25 per cent. The project will be funded through both equity and debt in a 25% to 75% ratio. The debt will be repaid over a course of 7 years including 1 year grace period.

### **Subsidy**

There are numbers of incentive from central and State Governments for promotion of food industry. Some of the states formulate their own Agro Industry Policy from time to time. The new entrepreneurs should go through these guidelines. Various incentives are available depending upon location of the unit from District Industry Centres (DIC). Therefore, to take maximum advantage of these incentives, entrepreneurs may contact the District Industry Centres in their state. The GoI provides subsidy of 25% (50% for North East states) on capital cost (excluding land) with maximum limit of 50 lakhs for processing units (FPTUFS). Ministry of Food Processing Industry, GoI is implementing a centrally sponsored scheme called Scheme of Technology Upgradation / Establishment/ Modernisation of Food Processing Industries under National Mission on Food Processing (NMFP) jointly with State Governments.

The scheme envisages financial assistance to food processing units in the form of grant-in-aid

- 25% of the cost of Plant & machinery and technical civil works, subject to a maximum of Rs.50 lakhs in general areas
- 33.33% of the cost of Plant & machinery and technical civil works, subject to a maximum of Rs. 75 lakhs in difficult areas (i.e. Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Andaman & Nicobar Islands and Lakshadweep) and Integrated Tribal Development Project (ITDP) areas.
- 50% of the cost of Plant & machinery and technical civil works, subject to a maximum of Rs.100 lakhs for North Eastern States including Sikkim.

The grant-in-aid will be released in two equal installments. The first installment of grant would be released after the firm has utilized 50% of the term loan as well as 50% of promoter's contribution. The second installment of the grant would be released only after confirming the commencement of commercial production through physical verification by the State Mission Directorate of NMFP and submission of documents specified below by the firm, utilization of first installment of the grant, 100% of Term Loan as well as 100% of Promoter's contribution [6].

### **Interest Rates**

Interest rate varies with the bank as banks are free to charge rate of interest above its base rate within overall RBI guideline issued. It also varies with the credit appraisal of the borrower. But base rate is the minimum lending rate below which bank is not allowed to lend. For calculation of IRR and net present value (NPV) of the project, cost of capital/interest rate of 12% set by commercial banks for long term loans has been taken Whereas, cost of working capital is taken as at 15% as per the rates fixed by the banks.

### **Security**

Banks provide loans against mortgage of fixed assets. Some banks give collateral free loans. The policy varies from bank to bank.

### **Depreciation**

Understanding and calculation of depreciation is important in economic analysis as it plays significant role in cost structure of the products through fixed costs. There are two methods i.e straight line method and written down value method used for calculating depreciation. Written down value method is most popularly used method in investment analysis due to its advantage over straight line method. Depreciation rates for WDV method as given by Companies Act 1956 [kharabandaassociates.com] (amended from time to time) are considered for calculation of depreciation schedule. Depreciation rates of 10%, 20% and 10% are considered for Buildings, Machinery and Miscellaneous assets respectively. As cost of land is not financed by banks, land purchase cost is not included in the project cost but land development cost is included.

## **RESULTS AND DISCUSSION**

The economics presented below are based on the assumptions discussed in the previous section.

### **Capacity of processing plant**

Considering 300 working days in a year and yield of the products, the small, medium and large units will have the annual installed capacity of products as presented in table 1. Emulsion products have average installed capacity of 8624 kgs for small units, 43118kgs for medium units and 114982 kgs on large units respectively. Cured products have processed capacity of 9234kgs, 46170kgs and 123120 kgs on small,

medium and large units respectively. Similarly small unit will produce 8100kgs of restructured products per year @100% capacity utilization. Medium and large units will give an output of 40500kgs and 108000 kgs if capacity is utilized fully. Enrobed products have installed capacity of 11610kgs per year on small units, 58050kgs on medium units and 154800 kgs on large units. At 60% capacity utilization small unit produces 5174 kgs of emulsion products, 5540kgs of cured products, 6966 kgs of enrobed products and 4860 kgs of restructured products. As capacity utilization goes on increasing from second year the output also increases.

the unit will start generating profits. The remaining output 29.2% of the utilized capacity is considered as margin of safety i.e upto 3601.29 kgs fixed costs will be fully recovered and at this point costs and returns will become equal resulting in zero profits and profits will come from only remaining 29.2% of utilized capacity in the first year. Emulsion meat products requires 2.04lakhs in the first year for meeting working capital requirement which is required to meet the expenditure till the unit starts production. In the First year Rs. 22.1 lakhs is required for meeting production expenditure which translates into production cost of Rs. 434.62 per kg of final product with

**Table 1** Annual output of meat products on different categories of processing plants (Kg/yr)

Product	Installed capacity			Output at utilized capacity								
	Small	Medium	Large	Small			Medium			Large		
				1 <sup>st</sup> year @ 60%	2 <sup>nd</sup> year @ 70%	From 3 <sup>rd</sup> yr 80%	1 <sup>st</sup> year @ 60%	2 <sup>nd</sup> year @ 70%	From 3 <sup>rd</sup> yr 80%	1 <sup>st</sup> year @ 60%	2 <sup>nd</sup> year @ 70%	From 3 <sup>rd</sup> yr 80%
Emulsion products	8624	43118	114982	5174	6037	6899	25871	30183	34495	68989	80487	91985
Cured products	9234	46170	123120	5540	6463	7387	27702	32319	36936	73872	86184	98496
Enrobed cuts	11610	58050	154800	6966	8127	9288	34830	40635	46440	92880	108360	123840
Restructured	8100	40500	108000	4860	5670	6480	24300	28350	32400	64800	75600	86400

**Table 2** Economics of different meat products on small scale processing plants

Product	PC	WC	Exp	TC	VC	FC	SP	GR	NI	NPV	IRR	BC	PB	ROI	ROE	Bep(kg)	Bep(%)
Emulsion products	15.1	2.04	22.1	434	335	99	478	24	2.1	9.6	40	1.61	3	26	104	3601	69
Cured products	13.6	1.93	20.8	385	313	72	424	23	2	9.4	44	1.7	2.8	27	111	3613	65
Enrobed cuts	14.0	2.74	29.7	426	361	64	468	32	2.8	13.3	55	1.95	2.4	33	133	4202	60
Restr.	16.4	1.77	19.2	396	303	93	436	21	1.8	8.4	36	1.52	3.1	24	96	3415	70

**Table 3** Economics of different meat products on medium scale processing plants

Product	PC	WC	Exp	TC	VC	FC	SP	GR	NI	NPV	IRR	BC	PBP	ROI	ROE	Bep(kg)	Bep(%)
Emulsion products	57.2	11.5	105	415	326	89	456	118	10.2	52.4	53	1.8	2.59	31.4	125	17689	68
Cured products	45.0	12.1	121	376	309	67	414	134	11.5	46.6	59	2.0	2.39	34.7	139	17688	63
Enrobed cuts	52.1	13.9	145	417	357	60	459	159	13.8	70	77	2.3	2	40.6	162	20566	59
Restr.	57.3	11.2	94	390	302	87	429	104	9	44.7	48	1.7	2.72	29	116	16834	69

**Table 4** Economics of different meat products on large scale processing plants

Product	PC	WC	Exp	TC	VC	FC	SP	GR	NI	NPV	IRR	BC	PBP	ROI	ROE	Bep (kg)	Bep (%)
Emulsion products	91	27	255	376	315	61	413	285	24	121.2	75	2.31	2.12	40	160	41750	60
Cured products	77	29	250	344	299	45	379	275	23	112.4	80	2.37	2.07	46.1	184	41750	56
Enrobed cuts	87.9	33	361	389	347	42	428	397	34	176.9	125	3.01	1.63	54.2	216	48426	52
Restr.	83.4	26	223	345	290	54	379	246	21	105.6	73	2.27	2.15	39.1	156	39673	61

**Abbreviations**

Cap-capacity; Pc- project cost (Rs. lakhs); Exp-expenditure (Rs. lakhs 1<sup>st</sup> year); TC-(Rs/kg); VC-variable cost (Rs/kg); FC-fixed cost (Rs/kg); Sp-selling price (Rs/kg); Gr-gross returns (lakhs 1<sup>st</sup> year); Ni-net income (Rs. lakhs 1<sup>st</sup> year); Bc-benefit cost ratio; Pbp-payback period (years); Roi-return on investment (%); Roe-return on equity (%); Bepkg-Breakeven point in kgs (1<sup>st</sup> year); Bep%-Breakevn point in as % of utilized capacity (1<sup>st</sup> year), Rest-restructured products

**Economics of meat processing plants**

**Small scale units**

For setting up of small scale meat processing plant (30kg/day) for the production of emulsion products an initial investment of Rs. 15.19 is required which will be recovered in less than three years (3yrs) with NPV of 9.6 , IRR of 40% and BCR of 1.61. The unit will generate 26.22% Returns on total investment. On an average 104.87% returns on equity will be generated in eight years period. The production will break even at 69.8% of utilized capacity in the first year i.e at 3601.29kgs

variable cost of Rs. 335.17/kg and fixed cost of Rs. 99.45/kg. With 10% markup the products can be sold at Rs. 478.09/kg which gives gross returns of Rs.24.74 lakhs in the first year. After deducting expenditure on inputs, interest and taxes the net returns will come to Rs. 2.14 lakhs which is the actual returns or profits kept with the producer.

Similarly for small scale production of cured meat products Rs. 13.64 lakhs is required with annual expenditure of Rs. 20.87 lakhs. The cost of production comes to Rs. 385/kg and price @10% comes to Rs.424/kg. The unit will generate gross and net returns of Rs. 23.12 and 2 lakhs respectively with selling price of Rs. 424.48/kg. The investment will be fully recovered in 2.8 years with NPV of Rs. 9.47 lakhs, IRR of 44%. The unit will generate Rs.1.7 Per every rupee investment. The profits starts at 65.25% (3613.88kg) of utilized capacity. For enrobed product production on small scale, project cost of Rs. 14.07 lakhs is required which will be recovered in 2.48 years. Cost of production was estimated to be Rs.426/kg. With selling price of Rs. 468.91/kg at 10% markup the unit generates NPV of Rs. 13.35 lakhs with IRR of 55% and BCR of 1.95. Break even point of output is kept at 4202.14 kgs (60.32%). Restructured products generates Rs. 1.52 per every rupee investment with



NPV of 8.46 and IRR of 36%. 3.16 years is needed to recover the initial investment of Rs. 16.44 lakhs with selling price of Rs.436.59/kg.

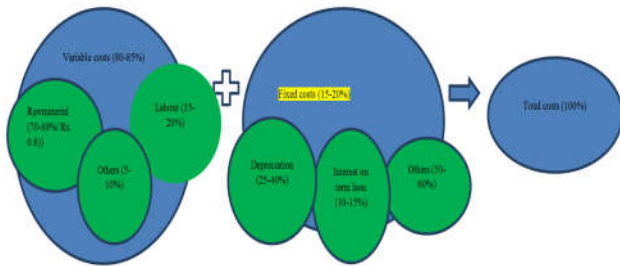


Figure 1 Share of different items in costs of meat processing

Medium scale units

For medium scale meat processing units with 150kg/day capacity, investment of Rs. 57.2, 45.05, 52.16 and 57.32 lakhs is required for emulsion, cured, enrobed and restructured products respectively. The units need annual total expenditure of Rs. 105.69, 121.9, 145.38 and 390.14 lakhs in the first years which comes to production cost of Rs. 415.44, 376.5, 417.39 and 390.14 /kg of emulsion, cured, enrobed and restructured products respectively. The investment will be recovered in 2.59, 2.39, 2 and 2.72 years with BC ratio of 1.87, 2.04, 2.34 and 1.78.

Table 5 Economics of different meat products on typical/average processing plants

Product	TC	VC	FC	SP	IRR	BC	BBP	ROI	ROE	Bep(%)
Emulsion products	389.42	319.06	70.35	428.36	56%	1.97	2.52	32.58	130.31	63.02
Cured products	369.07	307.26	61.81	406.08	61%	2.04	2.43	39.06	156.23	58.86
Enrobed cuts	411.07	355.26	55.81	452.17	86%	2.43	2.04	42.72	170.87	54.35
Restructured	377.46	298.67	78.79	415.20	52%	1.86	2.68	30.78	123.10	63.77

Large scale units

For taking up of meat processing on large scale with 400kg of processing capacity per day, an investment of Rs. 91.06, 77.06, 87.96 and 83.46 lakhs is required for emulsion, cured, enrobed and restructured products respectively. Pay back period for this investment is estimated as 2.12, 2.07, 1.63 2.15 with BC ratio of 2.31, 2.37, 3.01 and 2.27. large units incurs annual costs of Rs. 255.32, 250.38, 361.8 and 223.78 lakhs in the first year that comes to Rs. 376.27, 344.82, 389.53 and 345.34/kg of final product of emulsion, cured, enrobed and restructured products respectively. These units generates 40.04%, 46.1%, 54.25% and 39.18% returns on total investment. The units generates NPV of Rs. 121.25, 112.46, 176.9 and 105.69 lakhs for eight year period with IRR of 75%, 80%, 125% and 73% for emulsion, cured, enrobed and restructured products respectively.

Cost structure in meat processing

Overall economic analysis shows that average cost of production was highest (Table 5) for enrobed products (Rs. 411.01/kg) followed by emulsion (Rs. 389.42/kg), restructured (Rs.377.46/kg) and cured products (Rs. 369.07/kg) respectively. Further share of different items in the total costs shows that irrespective of the product variable costs accounts for 80-85% where as fixed costs accounts for 15-20% of the total costs i.e for every rupee of expenditure, Rs.0.8-0.85 is accounted by variable costs only and the remaining Rs. 0.15-0.2 is accounted by fixed costs (Fig1).

Again among the variable costs, Raw material alone accounts for 70-80% followed by labour (15-20%). Other cost account for 5-10%. Regarding fixed costs depreciation alone takes major share of 25-40% where as interest on term loan accounts for 10-15%. Others will account for 50-60% of total fixed costs. In accordance with the costs, Selling price at 10% markup was also highest for enrobed products (Rs. 452.17/kg) followed by emulsion (Rs. 428.36/kg), restructured (Rs.415.2kg) and cured products (Rs. 406.08/kg) respectively (table5).

Profit margins in meat processing

Irrespective of the product and unit, Meat processing generates 20-25% of gross profits, 13-17% of operating profits, 11-14% of profit margin and 10-12% of net profit margins (fig2). Out of these profits, direct expenses account for 75-80% of profits. Administrative expenses account for 7-8%, interest accounts for 2-3% and taxes account for 1-2% of total profits resulting in net profits of 10-12% (Fig3). Further profitability can be increased with increase in markup percent but it is feasible only large units as there is scope for increasing prices to bridge the gap between low cost of production and the prices to arrive market prices. But prices can not be increased beyond the 10%

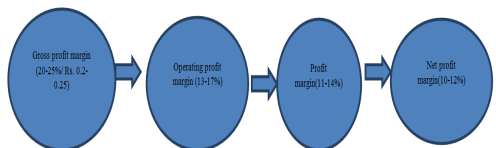


Figure 2 Profit margins for meat processing units

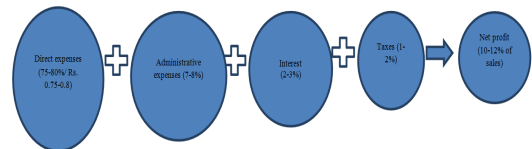


Figure 3 Share of different items in profits/sales of meat processing

markup in case of small units as they represent in unrealistic prices beyond 10%.

All the discounting measures shows highest magnitudes for enrobed products. Enrobed products shows highest profitability with IRR of 86%, BCR of 2.43 and payback period of 2.04 years (table 5). Emulsion products generates Rs. 1.97 per every rupee investment with IRR of 56% and payback period of 2.52 years. For cured products investment will be recovered in 2.43 years with IRR of 61%, BCR of 2.04. Similarly enrobed products require 2.04 years to recover the investment with IRR and BCR of 86% and 2.43 respectively. Restructured products generates IRR of 52% with BCR of 1.86. The investment will be recovered in 2.68 years. Break even point is achieved in 63.02%, 58.86%, 54.35% and 63.77% of utilized capacity in the first year for emulsion, cured, enrobed and restructured products respectively.

Overall analysis shows that project cost and total cost shows positive goes on increasing with capacity where as per unit cost goes on decreasing with capacity. All the feasibility measures like IRR, NPV, BCR goes on increasing with capacity. Break even analysis shows that break even point is achieved in less time on large units showing increased margin of safety on large units. Thus Economies of scale [Arrow, 1998] is reflected in all aspects of costs, returns, feasibility and breakeven analysis.

## CONCLUSIONS

The paper has assessed the feasibility of meat processing in India. Following conclusions emerge from the study.

- Project cost and total costs shows positive relation with the capacity
- Cost of production shows negative relation with the capacity
- Variable costs accounts for 80-85% where as fixed costs accounts for 15-20% of the total costs in meat processing.
- Among of variable costs Raw material alone accounts for 70-80%, where as in fixed costs, depreciation alone takes major share of 25-40%.
- Irrespective of the product and unit, Meat processing generates 20-25% of gross profits, 13-17% of operating profits, 11-14% of profit margin and 10-12% of net profit margin. Profitability can be further increased by increase in markup for large units.
- Among the products, highest profitability was observed for enrobed products irrespective of the unit.
- Large units shows highest feasibility among the units irrespective of the product.
- Overall, Enrobed products shows highest feasibility with IRR of 86%, BCR of 2.43 and payback period of 2.04 years
- Profitability goes on increasing with capacity as indicated by increased margin of safety along with capacity.
- All the feasibility measures like IRR, NPV, BCR goes on increasing with capacity and shows highest values for enrobed products.
- Economies of scale are evident in meat processing as reflected by all aspects of costs, returns, feasibility and breakeven analysis.

We can conclude from the study that meat processing is profitable and feasible irrespective of the product and scale of the unit. As investment requirement varies with the product and

size of the unit enterpreneurs can chose the product and the size of the unit depending upon the financial worthiness. The paper presented economics for broad categories of products. Again with in the broad category, no of products exist. Investment and economics vary among the products with in a category.

Hence depending upon the financial worthiness one has to select the product. With in the broad category profitability varies among the products. But overall meat processing was found to be profitable for all the products in each and every category suggesting that Enterpreneurs can venture into the meat processing business to reap the benefits of the meat processing. For this to happen responsibility lies with the govt, finacila institutes to take policy measures to support the meat sector in the form of easy availability of credit at low interest as interest alone accounts for 10-15% of fixed costs and 2-3% of profits. Hence measures should be directed in this direction. Measures should also be diverted towards tax policies as it accounts for 1-2% of profits. As profitability was highest on large units govt should take measures to encourage setting up of meat processing on large scale through cooperative societies in the villages by providing incentives.

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