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## Value addition, break-even point and cost & return of processing of groundnut mill's in Maharashtra

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### Abstract

The groundnut or peanut is a species in the family Fabaceae (Commonly known as the bean, pea or legume family). Groundnut oil, also known as peanut oil or arachis oil is a mild tasting vegetable oil derived from peanuts. Groundnut is produced in Maharashtra. Oilseed processing is the biggest component of oilseed sector. Primary oil milling is the considered to be the important activity in the oil-processing segment of the industry. However, primary milling adds little to shelf life, wastage control and value addition. Therefore, an attempt has been made to study the economics of processing and marketing of groundnut.

The primary data was collected by personal interviewing processor. Therefore the attempt was done to estimate per unit cost and returns of processing unit. An attempt, also been done to determine the break-even point of agro processing unit and optimum size of value addition in groundnut. In the light of the empirical evidences brought out from the study, the following result are drawn. In almost all size groups of groundnut, the investment in land constituted the main items of investment followed by factory building and machinery. The net returns per quintal for groundnut processing were found to be higher in case of large size oil mills as compared to medium and small size oil mills. Benefit cost ratio was also found to be higher in large sized mills. Break-even point of ground mills was higher in small size oil mills as compared to medium and large size oil mills. Value addition in processing unit of oilseed for groundnut was higher in large size oil mills followed by small & medium size groundnut oil mills.

**Keywords:** Groundnut, capacity utilization, cost and returns, break-even point, value addition

### Introduction

The groundnut or peanut is a species in the family Fabaceae (commonly known as the bean, pea or legume family). Groundnut oil, also known as peanut oil or arachis oil is a mild tasting vegetable oil derived from peanuts. Groundnut oil is a kind of light yellow transparent edible oil with clear color and lecture, pleasant fragrance and good taste, is relatively easy to digest. Groundnut oil contains more than 80% unsaturated fatty acids (including 41.2% oleic acid and 37.6% linoleic acid). It also contains 19.9% of palmitic acid, stearic acid, arachidic acid and other unsaturated fatty acids. The fatty acid composition of peanut oil is relatively good, therefore it is easy for human bodies to digest and absorb. The groundnut is an annual herbaceous plant growing 30 to 50 cm (1.0 to 1.6 ft.) tall. The leaves are opposite, pinnate with flour leaflets each leaflet is 1 to 7 cm long and 1 to 3 cm across. Peanuts have high oil content (45%-52%) compared too many other oil seed crops.

Advancement in agro-processing industries also promotes agricultural development in India. In Maharashtra, specifically in groundnut producing district like Akola, Latur, Amravati and Buldhana, some agro-processing industries are playing vital role in processing of groundnut and contributing into the economy of Maharashtra.

Therefore, necessary to have information on area, production, productivity, cost of cultivation, cost involved in processing, economics of scale, optimal size of processing unit, marketing practices involved, price spread and the problems involved if any in processing of groundnut in Maharashtra.

### Objectives

1. To estimate per unit cost and returns of groundnut processing unit.
2. To work out Break- Even point of groundnut processing unit.
3. To study the value addition in groundnut.

## Methodology

The Amravati, Baramati & Latur district was randomly selected. The data was collected by survey method by conducting personal interviews of processors using specially designed schedules prepared for the purpose. The primary data in respect of cost of processing by processors in production was collected. Oil extraction in small processing unit with a capacity 10-50 q/day. Medium processing unit with a capacity 50 to 100 q/day and large processing unit with a capacity 100-150 q/day. Ten processing units were selected randomly from the available processing units.

## Techniques of Data Analysis

The cost and return of processing unit was worked out by using simple tabular analysis and benefit-cost ratio. The financial test ratio *viz.* operating ratio, fixed ratio, gross ratio and capital turn-cover ratio. The break- even volume of output is determined with the help of following formula.

$$Q = \frac{TFC}{(P-AVC)}$$

Where

Q = Quantity of processed groundnut in quintals required for break-even.

TFC = Total fixed cost

P = Price (Processing charges) per quintal

AVC = Average variable cost of processing per quintal

Value addition is a difference between price for which a processing industry sold its groundnut product and the cost incurred on the purchased inputs by it. This difference Value addition is calculated with the help of following formula.

Value addition = Selling price of the product – Cost of the total inputs.

## Result Discussion

Oilseed processing is another major segment of Indian food processing sector, an activity largely concentrated in the cottage industry. According to estimates, there are approximately 3.5 lakh ghanis and kolus which are animal operated oil expellers, 17,500 oil mills, 825 solvent extraction plants, 550 oil refineries and over 195 hydrogenated vegetable oil plants. Therefore, an attempt was extended to study the processing of selected oilseeds *viz;* groundnut, which are processed in mechanical expellers.

The empirical results of the study involving with a view to workout costs and returns, break-even point and value addition in ground nut.

## Economics of processing of groundnut

In general, oil mills extract oils from various oilseeds and in those mills oil extraction is not confined to any single oilseed. Therefore, an attempt was made to study the economics of sample oil mills which were processing oilseeds groundnut. Also separate effort was also made to study the processing and marketing of groundnut which were processed in oil mills.

It is quite evident from economic theory, that with the increase in capacity of the industry, the production process becomes cost effective as the inputs are rationalized. This underlines the importance of capacity of any industry to process the raw material. Also as industries require huge capital investment, the ownership reflects the availability of capital to install the industry. Considering, these facts an attempt was made to study the capacities and ownership structure of ground nut oil mills and results are presented in table 1.

**Table 1:** Capacity utilization of ground nut oil mills and recovery of groundnut (May 2015 to April 2016)

Sr. No	Particulars	Size groups		
		Small	Medium	Large
	Capacity of groundnut mill (qtl/day)	32.07	84.00	108.20
<b>1.</b>	<b>No. of mills according to ownership</b>			
	Individual	4	3	2
	Family / Partnership	-	-	1
	Number of working days	243.33	240	280.00
	Quantity of groundnut actually milled (qtl)	7802.89	20160.00	30296.00
<b>2.</b>	<b>Quantity of main product obtained (qtl)</b>			
	Refinery oil	7802.89 (28.29)	20160.00 (28.00)	30296.00 (29.24)
<b>3.</b>	<b>Quantity of by product obtained (qtl)</b>			
	DOC (De oiled cake)	19223.33 (69.71)	50400.00 (70.00)	72268.00 (69.76)
	Waste/ losses	551.56 (2.00)	1440.00 (2.00)	1036.00 (1.00)
	Total	27577.78 (100.00)	72000.00 (100.00)	103600.00 (100.00)

Figures in parentheses are percentage to the total quantity processed

The study revealed that the capacity of groundnut oil mills under study was 32.07 quintals, 84 quintals and 108.20 quintals per day, respectively in small, medium and large sized ground nut oil mills under study. Total ten groundnut mills were selected out of which individual processor owned by nine mills while in partnership owned by one mill. From the above observation, it is revealed that the ground nut oil mills owned by individuals have low capacity in comparison with the oil mills run by family or partnership, which was due to inadequate availability of capital. Over the size group, the mills found to be working for 243.33 days, 240 days and 280 days, respectively, in small, medium and large sized oil mills.

Actual quantity of oilseeds processed by these mills was 7802.89 quintals, 20160 quintals and 30296 quintals, respectively, while the percent of actual quantity of oilseed processed with respect to the installed capacity was 28.29, 28.00 and 29.24 percent, respectively, in small, medium and large sized ground nut oil mills. The quantity of byproduct *viz;* groundnut cake was 19223.33 quintals, 50400.00 quintals and 72268.00 quintals respectively in small, medium and large sized oil mills. While the process loss was 2.00, 2.00 and 1.00 percent, respectively in small, medium and large sized oil mills. The increased quantity of groundnut oil obtained over the size group indicated that recovery of

groundnut oil showed direct relationship with the installed capacity of oil mills.

From the forging discussion; it is revealed that all the mills were using less than 50 percent of their capacity which was due to inadequate and seasonal availability of oilseed for milling. The results indicated that the capacity utilization in small sized oil mills was less than the large sized oil mills.

### Capital investment in groundnut oil mills

This investment comes under fixed cost. The basic requirements such as land, building, machinery for establishing an industry require large capital investment. In this context, the information on average capital investment on those capital items, in different size groups of oil mill is presented in table 2.

**Table 2:** Capital investment in groundnut oil mill (Rs. /unit.)

Sr. No.	Capital items	Size group		
		Small	Medium	Large
1.	Land	2850000.00 (39.67)	7550000.00 (52.07)	7390000.00 (38.84)
2.	Factory building	2190000.00 (30.48)	2550500.00 (17.59)	3773666.67 (19.83)
3.	Machinery and other accessories	1978333.33 (27.54)	4100000.00 (28.27)	7343500.00 (38.60)
4.	Electrification	55833.33 (0.78)	116500.00 (0.80)	185333.33 (0.97)
5.	Furniture and fixtures	52333.33 (0.73)	115000.00 (0.79)	214333.33 (1.13)
6.	Vehicle	58166.67 (0.81)	68500.00 (0.47)	120000.00 (0.63)
	Total	7184666.67 (100.00)	14500500.00 (100.00)	19026833.33 (100.00)

Figures in parentheses are percentages to total capital investment.

It is revealed from table 2, that the land, factory building and machinery found to contribute 17.59 to 52.07 percent total of capital investment cost in all size groups. In small sized ground nut oil mills, investment in land, factory building and machinery contributed 39.67, 30.48 and 27.54 percent respectively, while electrification, furniture and vehicle each contributed less than one percent of the total investment in capital assets. In large sized oil mills land was the major item contributed 38.84 percent while investment on machinery and factory building and electrification contributed 38.60 percent and 19.83 percent 0.97 percent in the total investment in capital assets. In case of medium sized oil mills the major capital cost items was land contributing 52.07 percent, with the investment of 28.27 percent and 17.59 percent and 0.80 percent in machinery, factory building and electrification respectively. The study reveals that on an average, the capital

investment was Rs. 71.85 lakh, Rs. 1.45 crore and Rs. 1.90 crore, respectively, in small, medium and large sizes oil mills, which observed to be increasing over the size group ascertained that investment in capital assets had direct relationship with the size group of oil mills.

### Annual operating cost of oil mill in groundnut processing

The item wise annual cost structure of the average oil mills in processing of groundnut belonging to different size groups. The examination of the annual cost structure of the average groundnut oil mill over the size group revealed that the per oil mill absolute amount of cost on account of almost all the items of cost increased with the increase in size of groundnut oil dal mills. The information on annual operating cost of groundnut oil mill in different size groups of oil mill is presented in table 3.

**Table 3:** Annual operating cost of groundnut oil mill (Rs. /unit.)

Fixed Cost				
Sr. No.	Item of cost	Size groups		
		Small	Medium	Large
1.	Opportunity cost of land	285000.00 (6.89)	755000.00 (7.89)	739000.00 (4.87)
2.	Depreciation on buildings@5%	109500.00 (2.65)	127525.00 (1.33)	188683.33 (1.24)
3.	Depreciation on machineries @10%	197833.33 (4.78)	410000.00 (4.29)	734350.00 (4.84)
4.	Electrification	5583.33 (0.13)	11650.00 (0.12)	18533.33 (0.12)
5.	Depreciation on furniture @10%	5233.33 (0.13)	11500.00 (0.12)	21433.33 (0.14)
6.	Vehicle	5816.67 (0.14)	6850.00 (0.07)	12000.00 (0.07)
7.	Interest on fixed capital@ 10%	718466.67 (17.36)	1450050.00 (15.16)	1902683.33 (12.53)
8.	Expenditure on permanent labour	189200.00 (4.57)	510000.00 (5.33)	1009333.33 (6.65)
9.	Taxes, Insurance and License fee	46183.33 (1.11)	73200.00 (0.77)	260416.67 (1.71)
	Total fixed cost	1562816.67 (37.76)	3355775.00 (35.09)	4886433.33 (32.18)
Variable cost				
1.	Casual labour charges	293622.22 (7.09)	495000.00 (5.18)	850360.00 (5.60)
2.	Repair and maintenance	44611.11 (1.07)	72000.00 (0.75)	88666.67 (0.58)
3.	Telephone and telegraphs	4533.33 (0.10)	6000.00 (0.06)	11333.33 (0.07)
4.	Miscellaneous	45000.00 (1.08)	96750.00 (1.01)	140000.00 (0.92)
5.	Water charges	36500.00 (0.88)	48000.00 (0.50)	46666.67 (0.31)
6.	Electricity	186555.56 (45.07)	480000.00 (50.19)	802666.67 (52.85)
7.	Storage charges	4440.83 (0.10)	14400.00 (0.15)	20720.00 (0.14)
8.	Office expenses	6000.00 (0.14)	10250.00 (0.10)	12000.00 (0.07)
9.	Interest on working capital @ 12 percent	276031.57 (6.67)	665088.00 (6.95)	1103569.60 (7.27)
	Total variable cost	2576294.62 (62.24)	6207488.00 (64.91)	10299982.93 (67.82)
	Total operating cost	4139111.29 (100.00)	9563263.00 (100.00)	15186416.27 (100.00)

Figures in parentheses are percentage to the total operating cost.

The examination of the per annum cost structure of oil mills in groundnut processing revealed that in absolute value, the total fixed cost per annum was increasing and was 15.63 lakh, 33.56 lakh and 48.86 lakh but its percent share in total cost per annum showed decreasing trend and was Per oil mill total variable cost in absolute value as well as in percent found to be increasing and was 25.76 lakh, 62.07 lakh and 1.02 crore respectively in small, medium and large sized oil mills. The data revealed that though the fixed cost was decreasing, the increasing proportionate share of total variable cost led the total cost of oil processing to increase. The total cost of groundnut processing was 41.39 lakh, 95.63 lakh and 1.52 crore, respectively, in small, medium and large sized oil mills. Interest on fixed capital formed major part i.e. 12.53 to 17.36 percent total fixed cost followed by expenditure on permanent labour, opportunity cost of land, Depreciation on machinery, furniture, electrification and vehicle etc.

Average variable cost per unit per year for all size group revealed that electricity charges formed major share in total variable cost. It showed that electricity charges 45.07 percent, 50.19 percent and 52.85 percent, in small, medium and large size units respectively, followed by casual labour charges formed second major percent in total variable cost. Repair and maintenance charges were directly proportional to the all size of group and contributes least compared to other variable cost items. Interest on working capital was 6.67 percent, 6.95 percent and 7.27 percent for small, medium and large size groups. This could be related with the pattern of capacity utilization of ground nut oil mills over the size group. It has been observed that the percent utilization of installed capacity of ground nut oil mill increased over the size group of ground mills, showing thereby the capacity of ground nut oil mills was increasing in processing adequate quantity of their installed capacity. As a result, the per ground nut mill, variable cost did increase in proportion with the increase in installed capacity.

Average total cost per unit per year were Rs. 4139111.29, 9563263.00 and 15186416.27 in small medium and large units respectively. Table 5 further revealed that the average total cost per unit per year for all size group, the share of total fixed cost ranged from 32.18 to 37.76 percent and 62.24 to 67.82 percent share of total variable cost to total cost incurred by ground mill owners in processing of ground nut oil.

It is thus quite evident that the proportionate share of fixed cost in the total cost of groundnut milling showed the decreasing trend, while that of variable cost showed the increasing trend. This could be related to the actual quantity processed by the mills over the size group. As the quantity processed over the size group found to be increasing so as the

total variable cost found to be increasing. The increased quantum of groundnut processed over the size group lowered the total fixed cost over the size group indicated the cost-efficiency in fixed cost which was quite obvious.

#### Financial viability of groundnut oil mill

The performance of the processing industry can be assessed through the income analysis by gainfully using two important parameters viz; costs and returns. Still, the financial test ratios help processors in developing standard norms of investment and expenditure and also indicate the viability of the processing unit. Therefore, an attempt was made to compute some of the financial test ratios viz; operating ratio, fixed ratio, gross ratio and capital turnover ratio, respectively for different sized oil mills processing groundnut and the result thereof are given in table 4.

**Table 4:** financial test ratio's in groundnut mill

Sr. No	Particulars	Size group		
		Small	Medium	Large
1.	Operating ratio	0.81	0.82	0.81
2.	Fixed ratio	0.046	0.037	0.036
3.	Gross ratio	0.96	0.96	0.95
4.	Capital turnover ratio	1.038	1.043	1.053

From the results, it was revealed that the operating ratio of groundnut milling was for the small, medium and large size group, it was 0.81, 0.82. And 0.81 respectively. The fixed ratio of groundnut processing in small, medium and large size group of oil mills was 0.046, 0.037 and 0.036, respectively. However, it was the least in large size group of oil mills.

The gross ratio in small, medium and large size group was 0.96, 0.96 and 0.95, respectively in small, medium and large sized oil mills. From the gross ratio, it was revealed that the large sized oil mills are financially more viable, followed by the medium and small sized oil mills while processing groundnut. All the three ratios, in all the size groups, were less than one indicated that groundnut milling was a profitable activity to the miller. The capital turnover ratio was the least (1.038) in small sized oil mills and was the highest (1.053) in the large sized oil mills, this confirmed the fact that the large sized oil mills are efficient to turn their investments into income to the larger extent.

#### Cost of groundnut processing

It includes total processing cost, marketing cost, cost of raw material and total cost incurred by groundnut mill owner per quintal. The cost of groundnut processing were work out and presented in table 5.

**Table 5:** Cost of groundnut processing (Rupees)

Sr. No.	Particulars	Small	Medium	Large
1.	Total fixed cost per unit	1562816.67	3355775.00	4886433.33
2.	Total variable cost per unit	2576294.62	6207488.00	10299982.93
3.	Total cost (1+2)	4139111.29	9563263.00	15186416.27
4.	Quantity processed/day in qtls	32.07	84.00	108.20
5.	No. of working days in a year	243.33	240	280.00
6.	Quantity groundnut processed per unit (qtls)	7802.89	20160.00	30296.00
7.	Fixed cost per quintal	200.29 (37.76)	166.46 (35.09)	161.29 (32.18)
8.	Variable cost per quintal	330.17 (62.24)	307.91 (64.91)	339.98 (67.82)
9.	Processing cost per quintal (7+8)	530.46 (12.60)	474.37 (10.95)	501.27 (11.82)
10.	Marketing cost per quintal	461.77 (10.97)	454.39 (10.49)	456.68 (10.77)
11.	Cost of raw material per quintal	3214.71 (76.41)	3400.00 (78.54)	3281.08 (77.40)
12.	Total cost incurred by groundnut mill owner (9+10+11) per quintal	4206.93 (100.00)	4328.76 (100.00)	4239.03 (100.00)

From, the preceding discussion it was quite evident that, the certain extent of the installed capacity of groundnut processing remained unutilized and per mill total annual costs increased with the increase in the installed capacity of oil mills. Under these circumstances, the per quintal total cost, per quintal variable cost and per quintal fixed cost were computed to examine the existence of economies of scale for the year under study and presented in table 5.

At the Per quintal fixed cost was 200.29, 166.46 and 161.29, respectively, while per quintal variable cost was 330.17, 307.91 and 339.98, respectively in small, medium and large sized ground nut oil mills. From, the results, it was revealed that the per quintal total cost of groundnut processing was decreasing with increase in installed capacity of oil mills in groundnut processing. The above facts underline the economies of scale over the size groups. The hypothesis proposed in the first chapter that there exists a cost economy at relatively high output levels of groundnut processing at low outputs cost economies stand un-exploited has been proved and accepted.

Economics of ground nut processing showed that total quantity processed per unit was 7802.89, 20160.00 and

30296.00 quintals respectively in small, medium and large group. It obtaining by multiplying number of working days in a year with quantity of ground nut processed in a day. Processing cost per quintal is calculated by adding fixed cost per quintal and variable cost per quintal together. Processing cost varies according to the size group and total quantity processed. Cost of raw material is taken at the market rates at the time to which data pertain. Total cost incurred by ground nut mill owner is calculated by adding processing cost, marketing cost and cost of raw material. It was Rs. 4206.93, 4328.76 and 4239.03 per quintal in small, medium and large unit respectively. The cost of processing was highest for small sized units, i.e. Rs.530.46 per quintal and lowest for medium sized units i.e Rs. 474.37.

### Economics of groundnut processing

All the oil mills were in trading business from procuring of groundnut pods, processing and selling of oil and oil-cake and derive income from selling main and by product viz; groundnut oil and oil cake. The results of the same are presented in table 6.

**Table 6:** Economics of groundnut processing

Sr. No	Main & by product	Small			Medium			Large		
		Qt. in kg	Rs./ kg	Total (Rs.)	Qt. in kg	Rs./ kg	Total (Rs.)	Qt. in kg	Rs./ kg	Total (Rs.)
1.	Refinery oil	28.29	105.00	2970.88	28.00	111.25	3115.00	29.24	105.00	3070.54
2.	DOC (Dhep)	69.71	20.00	1394.12	70.00	20.00	1400.00	69.76	20.00	1395.14
3.	Waste	2.00	0.00	0.00	2.00	0.00	0.00	1.00	0.00	0.00
4.	Gross Returns			4365.00			4515.00			4465.68
5.	Total cost			4206.93			4328.76			4239.03
6.	Net Returns			158.07			186.24			226.65
7.	Benefit Cost Ratio			1.038			1.043			1.053

It is observed from table 6, that gross returns received were Rs. 4365.00, 4515.00, 4465.68 per quintal in small, medium and large units respectively. The net return earned by oil mills from groundnut processing was Rs. 158.07, Rs. 186.24, and Rs. 226.65 respectively, in small, medium and large sized oil mills. Rationalization of resources and utilization of available capacity to earn more profits must be the basic objective of the industry and every industry tries to earn more profits by taking due efforts in this regards. In this context, an attempt was made to estimate the benefit: cost ratio to identify the profits on per rupee investment in groundnut milling for different size groups of oil mills and the results are presented in table 6. The benefit cost ratio was 1.038, 1.043 and 1.053, respectively, in small, medium and large sized oil mills. The estimation of benefit cost ratio revealed that the benefit: cost ratio in small, medium sized mills was quite less than that in

large sized mills. This is due to the reason that the small and medium sized mills were the local players where in the trading was done in the local markets/ nearby markets only.

### Break-even analysis of groundnut oil mill

The break-even quantity of groundnut for oil mills was estimated to justify the feasibility of oil mills in groundnut milling for different size groups of oil mills. The results on this behalf are presented in table 7.

Per oil mill break-even quantity of groundnut was less than the actual quantity of groundnut milled by all size groups of oil mills. For small, medium and large sized oil mills the break-even quantity of groundnut was 55.89, 47.20 and 41.58 percent, respectively of the actual quantity of groundnut milled by those mills.

**Table 7:** Break even analysis of groundnut oil (qtl. /unit.)

Group	Total fixed cost (AFc)	Selling price (Ps)	Variable cost (Vc)	Actual quantity of processed	Break even quantity
Small	1562816.67	4365.00	4006.65	7802.89	4361.11 (55.89)
Medium	3355775.00	4515.00	4162.31	20160.00	9514.68 (47.20)
Large	4886433.33	4465.68	4077.74	30296.00	12596.01 (41.58)

Figures in parentheses are percentage to the actual quantity of processed.

It is observed from the table 7, that the actual quantity of groundnut processed was 7802.89 quintals, 20160.00 quintals, and 30296.00 quintals, while the required quantity for break-even volume of groundnut was 4361.11 quintals, 9514.68 quintals and 12596.01 quintals, respectively in small, medium and large sized groundnut oil mills. It is concluded from the

above table 7, that the breakeven point decrease based on groundnut oil mills growth.

From the above discussion it quite evident that the percent break-even quantity is decreasing over the size group, which is obviously related to the increased installed capacities of oil mills over the size group. The foregoing discussion thus

reveals that in the entire size group, the oil mills operate at a level higher than their break even volume but still at a lower level than their intake capacity. This is due to less availability of raw material which could be traced back to the negative growth rates of area, and production indicated that the area and production over the year of groundnut in Maharashtra found to be decreasing reflecting in less availability of groundnut for milling.

### Value addition in groundnut

An attempt was made to estimate the value added through processing of groundnut into groundnut oil, so also the attempt was further extended to compute the value addition of the groundnut oil. The Table 8 indicated that, in small size group the selling price of groundnut oil was Rs. 3214.71, while the value added was Rs. 619.84. In medium size group, the selling price was Rs. 3400, with the value addition of Rs 640.63.

**Table 8:** Value addition in groundnut (Rs. /quintal)

Sr. No	Particulars	Small	Medium	Large
1	Cost of raw material	3214.71	3400.00	3281.08
2	Processing cost	530.46	474.37	501.27
3	Gross returns	4365.00	4515.00	4465.68
4	Value addition	619.84 (19.28)	640.63 (18.84)	683.33 (20.83)

Figures in parenthesis shows percent of value addition in cost of raw material

It is revealed from the table 8, that the per quintal selling price of groundnut oil and extent of value addition was Rs. 3281.08 and Rs. 683.33, respectively, in large size group of oil mills. The value addition were increasing over the size group indicated that the large size group gain the substantial benefit through processing of groundnut to groundnut oil and is beneficial activity.

The increased quantity of groundnut oil obtained over the size group indicated that recovery of groundnut oil has direct relationship with the installed capacity of oil mills. The increased quantum of groundnut processed over the size group lowered the total fixed cost over the size group indicated the cost-efficiency in fixed cost. The fixed cost and variable cost per quintal found to be decreasing over the size groups of oil mills in groundnut processing underlines the economies of scale over the size groups. The large sized oil mills are financially more viable, followed by the medium and small sized oil mills while processing groundnut. The processors were the real beneficiaries of the value added to the product through converting groundnut into groundnut oil, which traces out the need to minimize the marketing cost and reshuffling of market margins among the market functionaries involved in processing and marketing of groundnut.

### Conclusions

The net returns per quintal for groundnut processing were found to be higher in case of large size oil mills as compared to medium and small size oil mills. Benefit cost ratio was also found to be higher in large sized mills. Break-even point of ground mills was higher in small size oil mills as compared to medium and large size oil mills. Value addition in processing unit of oilseed for groundnut was higher in large size oil mills followed by small & medium size groundnut oil mills.

### Policy Implication

Government should provide subsidies to some extent for purchasing of processing machineries and equipment. The Government should need to control the prices of finished products by reducing market intermediaries. The Government should ensure regularity in supply of power in industrial areas. The Government should focus on increasing infrastructure facility to improve the financial condition of processor.

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