Chapter - 5

COST STRUCTURE

Analysis of the cost structure is important for the purpose of accounting, cost control, decision making and planning. The estimation of cost is necessary to determine the cost behavior of a micro level unit.

The cost of raw materials, direct wage cost and other direct cost is known as total variable cost. All costs incurred over and above this cost in known as overhead. Overhead is the total indirect cost i.e. cost of indirect materials, indirect wages, and other indirect cost like office expenses, selling expenses, travelling expenses and repairs & maintenance etc. Overhead cost is again sub divided into production overhead, office and administration overhead and selling and distribution expenses. All overhead costs are also known as indirect cost. The example of all direct and indirect expenses of any brick industry is shown in the table -17

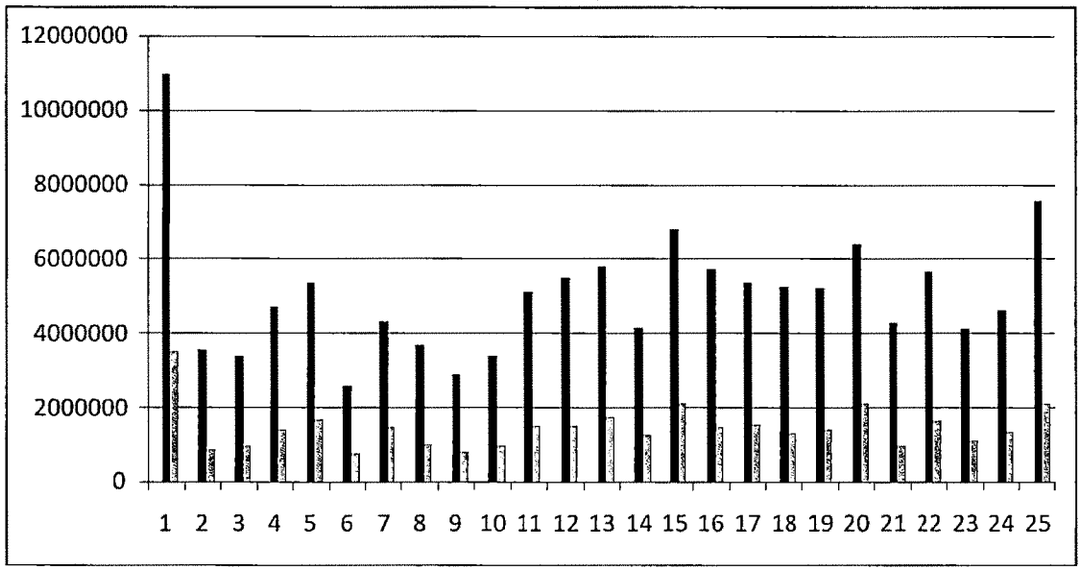
Table – 17: **List of Direct and Indirect costs of Typical Brick units in West Bengal**

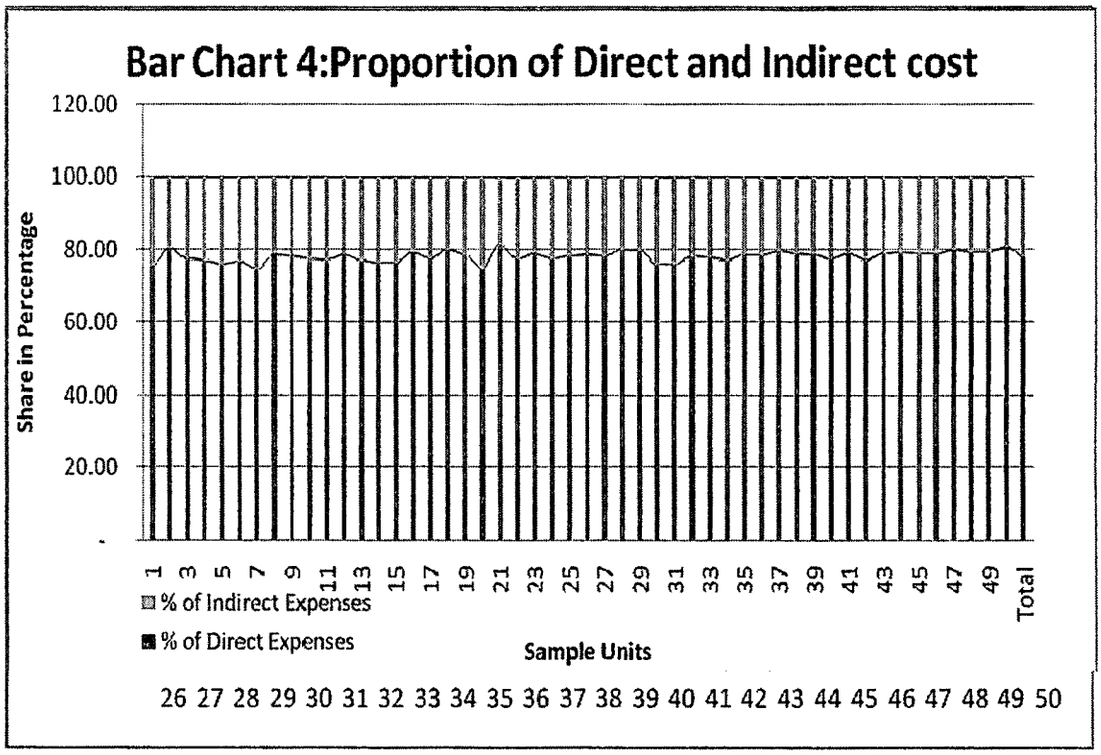
Direct Costs	Indirect Costs
Raw materials; soil; River sand Wages : Clays preparation Green brick manufacturing Loading Storing Others Salary of Stacker Fire man Asstt. Fire man Coalman Ticket master Mistri (loading) Mistri (unloading) Cost of coal Cost of other fuel	Salary of Manager Munsi Assistant Office expenses Selling Expenses (Commission, Discount) Travelling Maintenance and Repairs Education Allowance to children of works Medicine and labour amenities

Source: Field Survey

Direct costs or variable cost refers to the cost directly related to production. Variation of direct cost depends on the varying quantity of production. The indirect costs are not directly related to production quantity and are fixed. The share of direct cost and indirect cost incurred in the selected brick industries are shown in the following bar chart. Bar chat of total direct cost and total indirect cost in the fifty sample units of West Bengal is prepared from table – 18.

Bar Chart–3: TOTAL DIRECT COST AND INDIRECT COST IN THE SAMPLE UNITS





The above bar chat prepared on the basis of data shown in the table.—18

The comparison of fixed and variable cost components reveals that the bricks units use less fixed assets and low technology. Again out of the total direct cost the share of direct material, direct labour and other direct cost are 16.78%, 41.98% and 41.24% respectively. The share of raw materials cost is very low as the industry mainly uses soil and sand as direct raw materials which are relatively much cheep. On the other hand, the share of direct labour cost is high because brick production is a labour intensive production process.

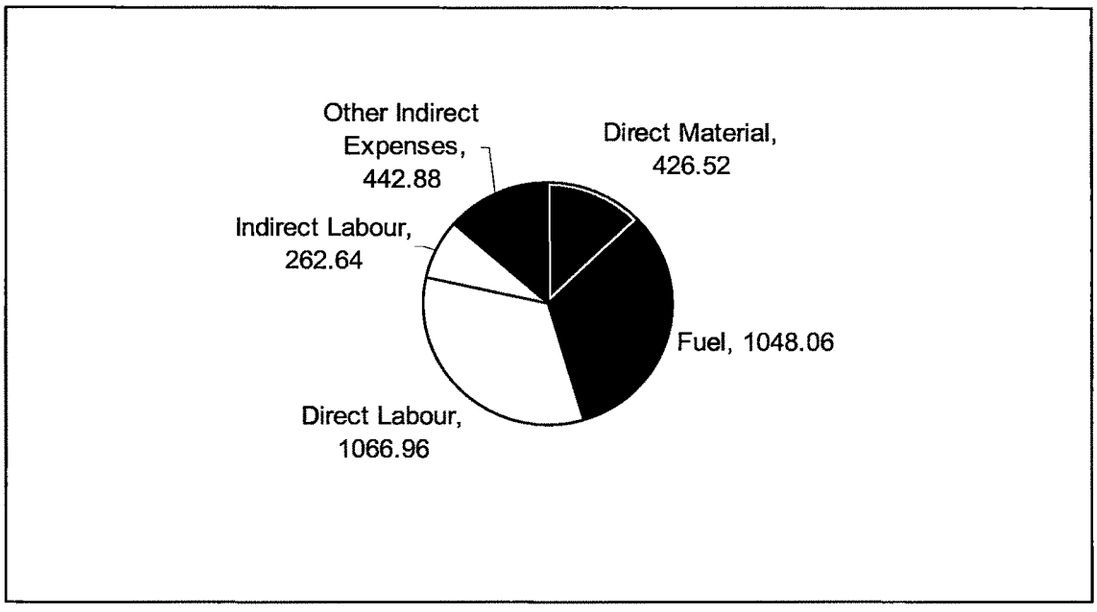
The above Bar Chart prepared on the basis of data shown in the table 19.

It is found from the above bar chart that in case of direct cost the maximum share is 81.48 % and the minimum share is 74.67% and the average direct cost percentage of total cost is 78.18%. The indirect cost percentage maximum is 25.33% and minimum is 18.52% whereas average is

21.82%. This means that the indirect cost percentage is very low and it indicates minimum use of fixed assets. This is due to the fact that the brick manufacturing units in West Bengal run in traditional method. In case of direct cost the maximum is 81.48% and minimum is 74.16% and the average is 78.18%. In this case the minimum is of the semi mechanized unit. Thus without taking into consideration the case semi mechanized units the indirect cost average is 21.82% and the direct cost average is 78.18% reveals that the less use of fixed assets and the more use of raw materials, labour and other direct cost.

The following pie chart shows the different types of direct cost and indirect cost of 1000 bricks.

Pie chart--2: **SHARE OF DIFFERENT TYPES OF DIRECT AND INDIRECT COST**



Direct Material	426.52	13%
Fuel	1048.06	32%
Direct Labour	1066.96	33%
Indirect Labour	262.64	8%
Other Indirect Expenses	442.88	14%

The above share of Direct Material, Fuel, Direct Labour, Indirect Labour and Other Indirect cost are calculated on the basis of Mean Average of fifty brick fields.

As evident from the chart, the share of direct materials cost is total cost is 13%, fuel 32%, direct labour 33%, indirect labour 8% and other indirect cost 14 %. The pie chart shows that the percentage share of direct labour and fuel in the form of coal use in the brick industry in West Bengal is relatively very high, while cost of indirect labour and indirect material are moderate.

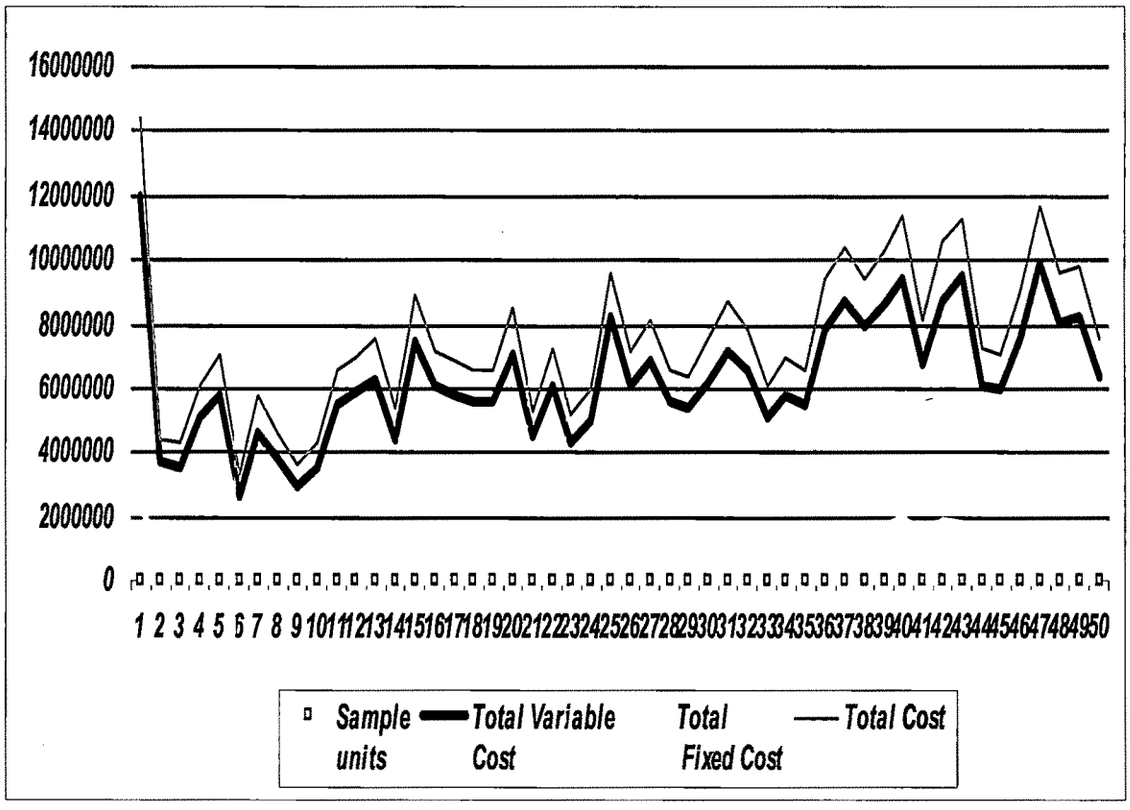
The items of fixed and variable cost in the brick manufacturing industry in West Bengal are shown below

Table -20: **LIST OF FIXED AND VARIABLE COSTS OF BRICK INDUSTRIES**

Fixed costs	Variable costs
Salary of (whole year)	Raw materials- soil, river sand
Manager	Wages: clay preparation
Munsi ; Accountant	Green bricks manufacturing
Assistants	Loading
Guards	Unloading
Depreciation, Repairs, Maintenances	Storing
Education allowance or grant	Others
Medicine	Salary of (5to 8 months)
Office expenses	Stacker
Food for bullock	Fireman
Royalty, cess, khazna,tax,licence	Asstt. To fireman
fees	Coalman
Donation / charities	Ticket master
Travelling	Mistri(loading)
	Mistri(unloading)
	Cost of coal
	Cost of other fuel
	Selling expenses, commission,
	discount.

Source: Field Survey

Line Chart –2: FIXED, VARIABLE AND TOTAL COST OF FIFTY SAMPLE UNITS



The above line chart is prepared from the table---21

It is found from the table-21 that in regard to the percentage of fixed cost to total cost is maximum at 20.19 and minimum at 13.88 and the average share of fixed cost is 16.45. This means that the fixed cost percentage is very low and it indicates the minimum use of fixed assets such as plant and machinery, land and building etc. This implies that the brick manufacturing industry in West Bengal works in conventional method with a minimum investment in fixed assets. The fixed cost of maximum brick units is close to the average. A few units are semi-mechanised where the pug mill uses machine instead of bull. The difference of maximum and minimum percentage is very narrow.

In the case of variable cost, the maximum percentage is 86.12 and minimum is 79.81. The average share of variable cost is 83.55. The brick industry in West Bengal is labour intensive as evident in the fact that labour accounts for 33% of total cost.

A cost sheet is shown in Table-22 to show the per unit cost. This is prepared on the basis of data collected from fifty sample brick manufacturing units in West Bengal by canvassing a questionnaire. The findings are presented in Table -22

As bricks are counted and sold per thousand, the cost is also shown in terms of per thousand of bricks. The table shows that the maximum cost per thousand brick is Rs. 3923 and the minimum cost per thousand Rs. 2788 and the average cost is around Rs. 3300 per thousand.

CAPITAL NEEDS

FIXED AND WORKING CAPITAL REQUIREMENTS

Industrial growth largely depends on timely supply of financial support. The main object of industrial finance is to provide capital in the organization. The capital investment in an industry is of two types, fixed capital and working capital. Fixed capital is embodied in assets, which are kept in the business permanently for a long period of time, such as Land and Building, Plant and Machinery, Furniture and similar assets. In contrast, the working capital refers to the cost of materials, wages, fuel and other expenses. These cost usually lead to production and sale in the case of manufacturing sector, like the brick industry. In what follows, an attempt is made to estimate the fixed and working capital requirements in the brick industry.

A) **Technology:** In a manufacturing concern the requirement of fixed capital is high but the brick industry requires a comparatively lower amount of fixed capital owing to use of simple technology. But, the requirement of working is high because of the need to maintain a

relatively high level of inventories in the form of raw materials and finished goods and regular payment of wages to workers.

B) **Manufacturing Process:** For the brick industry, the manufacturing activities beginning from making of green bricks to burnt bricks as finished product from the kiln constitute a prolonged process. This results in demand for a large amount of working capital.

C) **Seasonal Production:** The brick industry is a seasonal one. It can operate only in dry season in the state from November to June but the demand for bricks exists throughout the year. Therefore a considerable large the huge amount of money remains blocked in the form of finished goods (bricks) to fulfill the demand round the year.

D) **Risk and uncertainty:** The working capital requirement of any business concern depends on the extent of risk and uncertainty experienced by it. The higher the risk, the higher is the need for working capital. The brick making industry always operates under high risk. Not surprisingly, the requirement of working capital in comparatively high in relation to the need for fixed capital .The production of green bricks and their firing involve high risks owing to uncertainty involved in varying climatic situation and unexpected rains and other natural disasters.

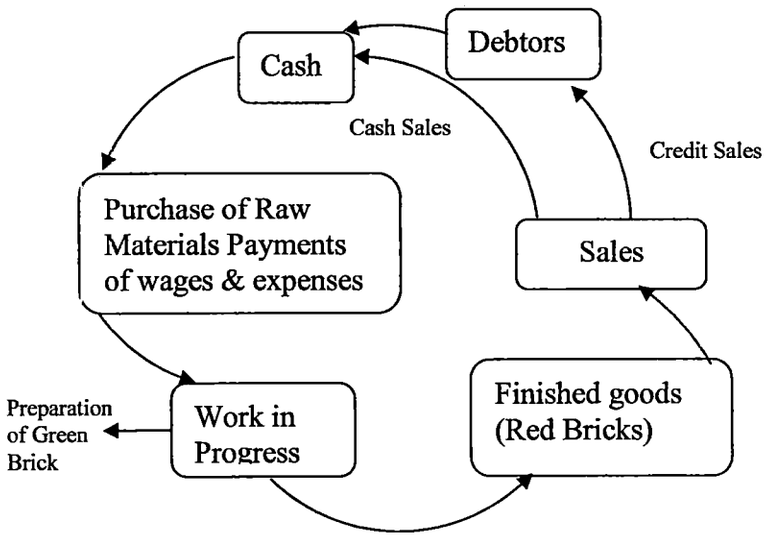
FLOW OF WORKING CAPITAL

For a manufacturing concern like a brick unit, the working capital cycle starts from cash or fund invested for purchase of raw materials ,payment of wages and other expenses. The cycle ends with sale of finished goods. The realized cash again is used for purchase of raw materials and the

process goes on. Longer the period of cycle greater is the requirement of working capital and vice versa.

The brick industry has a prolonged working capital cycle and thus needs more working capital. The field survey conducted in the present work reveals a large proportion of the total brick output in the state is consumed by Government or semi-government establishment directly or through contractors and the payment is very slow than in the case of other consumers. The results is that a huge sum of money remains blocked, resulting the need for a bigger amount of working capital. The brick manufacturing industry in west Bengal required much time about 45 days for processing from making of green bricks to the red bricks and to maintain a high stock level both raw-materials and red bricks to meet the demand for bricks of the whole year. Therefore, the brick industries in the state generally have a prolonged working capital cycle. The working capital cycle is shown in the following figure.

WORKING CAPITAL CYCLE



On the basis of above discussion the requirement of fixed capital and working capital are given in the table 23 and table 24 respectively

Table -23: **ESTIMATED FIXED CAPITAL REQUIREMENT FOR INSTALLATION OF NEW BRICK INDUSTRY**

(PRODUCTION CAPACITY 30 LAKH BRICKS PER SEASON)

Sl.No.	Items	Quantity	Estimated Cost
1	Land	-	-
2	Construction of new kiln or chimney (FCK)	One	1300000
3	Construction of approach road	One	150000
4	Office shed	One	50000
5	Labour shed	One	120000
6	Shed for Bullocks (Optional)	One	30000
7	Shed for green bricks storing	One	70000
8	Pug mill	Six	72000
9	Trolleys	Twelve	20000
10	Tube well	Four	40000
11	Mould	Twenty	3000
12	Belcha	Twenty	6000
13	Diesel Pump set	One	20000
14	Bullock	Six	42000
15	Polythene	-	50000
16	Office furniture	-	15000
17	License fees for migrant Labour	-	35000
Total			2110000

Source: Field survey (Estimated on the basis of 2006-2007 Price)

Table 24: ESTIMATED WORKING CAPITAL REQUIREMENT

(Production capacity 30 lakh per season)

Sl.No.	Items	Estimated cost(Rs.)
1	Raw materials: Soil Earth Sand(river)	1000000 75000
2	Wages: Clay preparation, loading, unloading, green brick manufacturing, storing, others, grant, welfare	3000000
3	Salary : (5 to 6 months) Stacker Fireman Asstt. Fireman (four) Coalman Ticket master Mistri (loading) Mistri(unloading)	200000
4	Salary (12 months) Manager(One) Munsi(Accountant) -(three) Assistant (one) Guard (three)	300000
5	Cost of coal	2500000
6	Cost of other Fuel(Diesel)	150000
7	Repairs and Maintenance	120000
8	Office expenses, Travelling, selling, & distribution expenses	100000
9	Charities & donation	500000
10	Other misc. expenses	100000
11	Tax	300000
Total		7895000

Source: Field survey (Estimated on the basis of 2006-2007 price)

Sources of Capital: The important sources of the capital of the brick industry in West Bengal are (a) Own Capital or Proprietors Capital, b) Internal source of capital, c) Local money lenders, d) Trade Credit and e) Bank Loan.

a) Own capital: Almost all brick manufacturers start business by supplying their own capital to meet the initial requirement of fixed and working capital. The brick field owners supply this capital from the hoardings of their forefathers or any other private sources. The sources are often nominal and are not sufficient for the expansion, modernization and development activities of their business.

b) Internal source of capital: The internal source of financing is retention of profit. Ploughing back of profit is a major source of capital for every concern. It is an important source of raising fund for expansion and improvement of technology. All brick fields enjoy the benefits of retention of profit but no records are maintained as a result of which it is difficult to estimate the exact amount of profit retained for a particular period.

c) Local money Lenders: The brick manufacturers sometimes take short-term loans for two to six months generally from moneylenders to meet the need for financing. The rate of interest is counted on monthly basis varies from 24% to 60 % p.a, which is vary excessively exorbitant compared to institutional loan.

d) Trade Credit: It refers to the credit extended by suppliers of goods in the normal course of business. It is an important source of short-term finance. In West Bengal, the brick manufacturers enjoy trade credit facility only in case from suppliers of coal. But it has been observed from the study that for purchasing coal, the purchase price of coal is higher by Rs. 50-100 per ton of

coal than in the case of cash purchase. The period of credit varies from one to three months.

e) Bank Loan: The different forms of financial assistance by the commercial banks are short term and long term loans, cash credit and overdraft. Of these different types, cash credit is the most popular among brick manufacturers in the state. Cash credit system is an arrangement under which the banks allow their customer to borrow money up to a certain predetermined limit against certain tangible securities. The interest is charged only on that part of amount withdrawn by his customer on daily basis. Sometimes the brick manufacturers take short-term loans from the banks. But they face problems while taking loan from bank. In case of the brick industry, many brick field owners can not arrange for collateral security for getting loan from bank. Another important point observed from the study is that the brick manufacturers do not maintain their books of account in a systematic manner. But the banks insist on these documents at the time of sanctioning loan. There are the major reasons for which the brick manufactures are unable to avail themselves of bank assistance.

PROFITABILITY

As is well known, maximization of the net operating profit is the primary objective of a business enterprise. No financial analysis can be considered complete if there is no analysis of the profit margin, because profit is needed for expansion and development of the business. But the various interested parties or groups related to any enterprise are interested in their own gains. For example an investor is interested in high rate of return, workers want

higher wages, and owners want higher net worth. Hence profit is the yardstick of measuring the overall efficiency of the business.

Profitability is defined as the profit earning capacity of a concern. It is an important index of proper and effective management of a firm. For any manufacturing concern, the gross profit is excess of sales over the direct expenses. The profitability of a sample of brick manufacturing unit in West Bengal is shown in Table 26 (prepared on the basis of Table 25). Most of the sample brick production units are observed to have a good performance from the profit margin point of view. It is also observed that the maximum gross profit margin is Rs. 1,06,50,000 and the minimum gross profit margin is Rs. 16,26,000 where as the average gross profit margin is Rs. 6140000. In the case of net profit margin, the maximum is Rs7155000 and the minimum is Rs 495000 though the average net profit margin is Rs 3940000.

Ratio analysis: Financial ratios are used by financial analysis for evaluation of the financial health and performance of a firm.

Purpose of analysis: Analysis of financial statement is also required for external parties including investors, creditors and bankers for sound decision making. Accounting ratios can also play a significant role in management decisions.

1) Gross Profit ratio: This ratio express the relationship between gross profit and net sales as a percentage. It reveals the amount of gross profit per rupee of sales. The higher the ratio, the greater will be the margin and lower the ratio, the lesser will be the margin that indicates high cost of goods sold, unfavorable purchasing policy, lesser sales and lowering selling price and high competition. Management is always interested in high gross profit ratio because sufficient return on owners fund. It is very useful as a test of

profitability. From the table 27 it is observed that highest gross profit ratio is 52.77 and lowest gross profit ratio is 26.85. We conclude that the brick industry showing a higher operating efficiency and earn sufficient gross profit to cover the operating expenses and to meet the fixed expenses. And also create reserve or retention of profit as a source of internal capital as well as provide an adequate return to the proprietor.

$$Gross\ Profit\ Ratio = \frac{Gross\ Profit}{Net\ Sales}\ X\ 100$$

2) *Net Profit Ratio:* *This* ratio depicts the relationship between net profit and net sales and it is expressed as a percentage. This ratio indicates the firm's capacity to face adverse economic condition, low demand etc. The higher the ratio, the greater will be the profitability and the higher rate of return to the proprietor. This ratio measures the overall efficiency of the management as well as overall profitability of the business. It is very useful tool to control the cost of production as well as to increase sales.

The net profit ratio of the sample brick production units show the maximum ratio is 37.12% and minimum ratio is 7.0%. It is observed from the net profit ratio that good overall efficiency of the industry and assured good return to the brick field owners. From the table 26 shows that the difference between gross profit ratio and net profit ratio of all units are high indicates high amount of indirect cost. In case of 20th sample unit gross profit ratio is 52.77% and net profit ratio is 37.12% ie. the difference is also exceptional one but earn more net profit.

$$Net\ Profit\ Ratio = \frac{Net\ Profit}{Net\ Sales}\ X\ 100$$

3) **Operating Ratio:** This ratio express the relation between operating cost to sales as percentage. It reveals the amount of sales required to cover the cost of goods sold (Sales – Gross Profit) and operating expenses ie. office and selling overhead. The lower is the ratio higher is the profitability and better is the management efficiency.

The operating ratios of fifty sampled brick production units are favorable shown in the table that the maximum ratio is 82.72% and the minimum ratio is 54.54. That indicates a good operating efficiency on the part of the production unit.

4) **Cost of goods sold to sales Ratio:** It is the most common ratio in operating analysis. It expressed as a percentage of cost of goods sold to net sales. Here cost of goods sold is equal to sales minas gross profit. This ratio also indicates the general profitability of the business.

5) **Material consumes, wages, fuel to sales ratio:** These indicate the percentage of material cost, wages and fuel to sales. The higher the ratios smaller will be the profit margin. These ratios also expressed the relation between expenses to sales. These ratios help to take financial decision after proper analysis and interpretation.

COST-VOLUME-PROFIT ANALYSIS

CVP analysis means the study of four factors i.e. cost (fixed cost, variable cost),selling price per unit, volume of sales in unit and profit. The study of these variable or factors helps to management to assess the potential profitability of the business unit. If we study the results due to various changes in factors such as a) changes in fixed cost b) changes in variable cost c) changes in selling price,

The cvp analysis is used more effective. This analysis helps to find out the answer of the following questions such as:

a) To maintain a particular level of profit, what will be the sales volume.

b) What will be the profit changes due to change in selling price

So cost --volume – profit(cvp) analysis is defined as "The study of effects on future profit of changes in fixed cost, variable cost, sales price, quantity or mix" (CIMA 6 official terminology). This technique is used mainly to determine the break even point and margin of safety. Break even point defined as " The level of activity at which there is neither profit nor loss. (CIMA official terminology)

Sales beyond the break even volume bring in profits. Such sales represent a margin of safety expressed as a ratio or percentage. It is an indicator of the strength of a business. High margin will indicate that profit will be made even if there is a substantial falling off in sales or production.

For the requirement of the study the simple model prescribed by Kaplan and Atkinson has been considered. The following assumptions of their model are as

a) the units are single product units b)Production is equal to sales,

c) Selling price is independent of the volume of product sold and

d) The cost can be uniquely divided between variable cost and fixed cost over the relevant range of analysis.

Actually, the cost -volume -profit analysis of the brick making industry in West Bengal different forms of c-v-p relation were done. On the basis of above mentioned assumption best describe the condition of the industry under consideration the model was ultimately chosen to analysis the

behaviour of the cost, volume and profit of the brick making industry of West Bengal. Since the above mentioned model cvp equations are discussed below:

Profit = Sales – variable cost – fixed cost

= unit sold (sale price per unit – variable cost per unit) – Fixed cost

Therefore, P = Su –Vu – F = (S –V) u – F

If, u = unit produced and sold

S = sale price per unit

V =variable cost per unit

F =total fixed cost

P= profit

Therefore, Contribution per unit (C) = S –V

$$BEP\ (in\ unit) = \frac{\text{Fixed Cost}}{\text{Contribution per unit}}$$

$$\text{BEP (in rupee)} = \frac{\text{Fixed Cost}}{\text{Total Contribution}} \text{ X Total Sales}$$

$$\text{C/S ratio or P/V ratio} = \frac{\text{Contribution}}{\text{Sales}}$$

The table (No-27) represents the result of CVP analysis of fifty sample brick manufacturing industry of West Bengal.

UNIT CONTRIBUTION

Unit contribution is the balance of sales price per unit over and above variable cost per unit. This may also known as total margin. In calculation of profit the fixed cost deducted from contribution. Column 6 of the table 27 shows the total contribution of fifty sample brick production unit of West Bengal.

P/V RATIO OR C/S RATIO

It is the ratio of contribution to sales. "The term is misleading as the term profit does not mean profit but contribution and the volume does not mean volume of sales but value of sales." In normal circumstances P/V ratio will indicate relative profitability of different products or departments so that development of sales strategy is facilitated. Higher the ratio greater will be the profit and lower the ratio lesser will be the profit. From the table 27 maximum P/V ratio is 47.67 and minimum P/V ratio is 21.14%. It is clear that the industry could earn a sizeable amount of profit as the fixed cost is low.

BREAK-EVEN POINT

Break even point is the point which expressed or breaks the total cost and the selling price evenly in order to show the level of sales or where no profit / no loss situation is made. At this point income is equal to expenditure. If the production and sales is increased beyond this level, there will be profit or vice versa. As the break even sales where the cost and revenues are in equilibrium. It is observed from the table 27 that the minimum BEP (in rupees) on percentage of sales is 22.13 and maximum BEP (in rupees) as percentage of sales is 67.11. The low level of this percentage means the maximum opportunity to make profit. At the same time it gives the wide scope of lowering the sale price at the time of competition.

MARGIN OF SAFETY

Margin of safety is one of the most important in cost –volume- profit analysis. It can be expressed as percentage and it is the difference between the total sales and sales at break even point. It indicates the strength or soundness of the business. From the table-27 indicates that the highest M/S is 77.87% and the lowest M/S is 32.89% where as the average M/S around 66%. Which is indicates the strength of the industry as a whole to offset the reduction of sales and confirmation of earning profit up to a great extent. It also observed that the brick industry of West Bengal are 66% safe from its break even point and not suffer any loss up to 66% fall in sales. Therefore the high margin of safety is no immediate threat of incurring losses. In case of low margin of safety the industry try to increase in sale price or volume of sales or decrease in cost or both as to achieve high margin of safety.

CONCLUSION

I like to conclude by saying that in several budgets in the past the large and medium scale industries engaged in the building industry and the more resourceful consumers have stood to gain while the case of small industries like the brick industry and the allied poor and low-income consumers have gone be default. Young and forward looking entrepreneurs have joined the ranks of brick field owners now and they expect a fair deal.

Our popular State Government is very much attentive to the improvement of many industries. Why should the small brick industry be deprived of these favours? The brick industry should be encouraged by the State Government and the works' representatives because this industry will reap multi-faced

positive consequences. The first and foremost consequence, it will solve the eternal problem of unemployment because it employs more than 6 lacs of people directly and about 2 lacs people indirectly to make a living out of it. In short the brick field scene in our state is set for a new look and seeks encouragement and inspiration from all of you. The brick industry in its turn assures better performance in the years ahead in the service of the nation.

Besides ensuring adequate and regular supply of its vital raw materials like earth and coal, reduction of local of industrial peace, the State Government should also provide necessary technical support and assistance in modernising the brick production, so as to improve the quality and reduce the costs of bricks and up-liftmen of the brick industry also.

Table 18: SHARE OF DIRECT COST AND INDIRECT COST OF SAMPLE BRICK PRODUCTION UNITS IN WEST BENGAL

Sample Units	Direct cost	Indirect cost
1	10950000	3495000
2	3538500	858000
3	3366000	973500
4	4726000	1394000
5	5360000	1687500
6	2571600	774000
7	4298000	1458000
8	3666000	987000
9	2858700	800800
10	3370500	984000
11	5101800	1507000
12	5490100	1501900
13	5787500	1725000
14	4158000	1276200
15	6783000	2103000
16	5701700	1476600
17	5333700	1541000
18	5233800	1311200
19	5207400	1416800
20	6393000	2118000
21	4290000	975000
22	5640000	1644000
23	4127400	1089000
24	4610000	1340000
25	7554000	2106000
	126116700	36542500

Sample Units	Direct cost	Indirect cost
26	5648800	1538700
27	6402500	1787500
28	5286000	1324000
29	5078000	1286000
30	5732500	1792500
31	6647200	2077600
32	6140000	1720000
33	4778000	1348000
34	5359200	1586200
35	5140000	1412000
36	7387500	2007500
37	8264700	2106000
38	7465000	1972500
39	8153600	2198000
40	8811000	2565000
41	6432800	1700900
42	8234800	2410800
43	8880000	2370000
44	5760000	1512000
45	5598000	1494000
46	7111000	1887600
47	9339000	2340000
48	7615400	1970800
49	7787500	2020000
50	6076000	1448000
Total	295245200	82418100
Average	5904904	1648362

Source: Field Survey

Table 19: PROPORTION OF DIRECT AND INDIRECT COST

Sample Units	Direct Expenses	Direct Expenses	Total	% of Direct Expenses	% of Indirect Expenses
1	10950000	3495000	14445000	75.80	24.20
2	3538500	858000	4396500	80.48	19.52
3	3366000	973500	4339500	77.57	22.43
4	4726000	1394000	6120000	77.22	22.78
5	5360000	1687500	7047500	76.06	23.94
6	2571600	774000	3345600	76.87	23.13
7	4298000	1458000	5756000	74.67	25.33
8	3666000	987000	4653000	78.79	21.21
9	2858700	800800	3659500	78.12	21.88
10	3370500	984000	4354500	77.40	22.60
11	5101800	1507000	6608800	77.20	22.80
12	5490100	1501900	6992000	78.52	21.48
13	5787500	1725000	7512500	77.04	22.96
14	4158000	1276200	5434200	76.52	23.48
15	6783000	2103000	8886000	76.33	23.67
16	5701700	1476600	7178300	79.43	20.57
17	5333700	1541000	6874700	77.58	22.42
18	5233800	1311200	6545000	79.97	20.03
19	5207400	1416800	6624200	78.61	21.39
20	6393000	2118000	8511000	75.11	24.89
21	4290000	975000	5265000	81.48	18.52
22	5640000	1644000	7284000	77.43	22.57
23	4127400	1089000	5216400	79.12	20.88
24	4610000	1340000	5950000	77.48	22.52
25	7554000	2106000	9660000	78.20	21.80
26	5648800	1538700	7187500	78.59	21.41
27	6402500	1787500	8190000	78.17	21.83
28	5236000	1324000	6610000	79.97	20.03
29	5078000	1286000	6364000	79.79	20.21
30	5732500	1792500	7525000	76.18	23.82
31	6647200	2077600	8724800	76.19	23.81
32	6140000	1720000	7860000	78.12	21.88
33	4778000	1348000	6126000	78.00	22.00
34	5359200	1586200	6945400	77.16	22.84
35	5140000	1412000	6552000	78.45	21.55
36	7387500	2007500	9395000	78.63	21.37
37	8264700	2106000	10370700	79.69	20.31
38	7465000	1972500	9437500	79.10	20.90
39	8153600	2198000	10351600	78.77	21.23
40	8811000	2565000	11376000	77.45	22.55

41	6432800	1700900	8133700	79.09	20.91
42	8234800	2410800	10645600	77.35	22.65
43	8880000	2370000	11250000	78.93	21.07
44	5760000	1512000	7272000	79.21	20.79
45	5598000	1494000	7092000	78.93	21.07
46	7111000	1887600	8998600	79.02	20.98
47	9339000	2340000	11679000	79.96	20.04
48	7615400	1970800	9586200	79.44	20.56
49	7787500	2020000	9807500	79.40	20.60
50	6076000	1448000	7524000	80.75	19.25
Total	295245200	82418100	377663300	78.18	21.82

Source: Field Survey

Table – 21: FIXED, VARIABLE AND TOTAL COST OF SAMPLE BRICK INDUSTRY IN WEST BENGAL

Sample units	Total Variable Cost	Total Fixed Cost	Total Cost	% of Vriable Cost to Total Cost	% of fixed cost to total Cost
1	11950000	2495000	14445000	82.73	17.27
2	3718500	678000	4396500	84.58	15.42
3	3549000	790500	4339500	81.78	18.22
4	5076000	1044000	6120000	82.94	17.06
5	5822500	1225000	7047500	82.62	17.38
6	2670000	675600	3345600	79.81	20.19
7	4648000	1108000	5756000	80.75	19.25
8	3847500	805500	4653000	82.69	17.31
9	2988700	670800	3659500	81.67	18.33
10	3552000	802500	4354500	81.57	18.43
11	5486800	1122000	6608800	83.02	16.98
12	5904100	1087900	6992000	84.44	15.56
13	6237500	1275000	7512500	83.03	16.97
14	4377600	1056600	5434200	80.56	19.44
15	7428000	1458000	8886000	83.59	16.41
16	6104200	1074100	7178300	85.04	14.96
17	5793700	1081000	6874700	84.28	15.72
18	5936400	908600	6545000	86.12	13.88
19	5614400	1009800	6624200	84.76	15.24
20	7083000	1428000	8511000	83.22	16.78
21	4477500	787500	5265000	85.04	14.96
22	6074400	1209600	7284000	83.39	16.61
23	4365000	851400	5216400	83.68	16.32
24	4976000	974000	5950000	83.63	16.37
25	8250000	1410000	9660000	85.40	14.60
26	6051300	1136200	7187500	84.19	15.81
27	6852500	1337500	8190000	83.67	16.33

28	5626000	984000	6610000	85.11	14.89
29	5418000	946000	6364000	85.14	14.86
30	6200000	1325000	7525000	82.39	17.61
31	7193200	1531600	8724800	82.45	17.55
32	6605000	1255000	7860000	84.03	15.97
33	5144000	982000	6126000	83.97	16.03
34	5755200	1190200	6945400	82.86	17.14
35	5480000	1072000	6552000	83.64	16.36
36	7842500	1552500	9395000	83.48	16.52
37	8729100	1641600	10370700	84.17	15.83
38	7917500	1520000	9437500	83.89	16.11
39	8652000	1699600	10351600	83.58	16.42
40	9429000	1947000	11376000	82.89	17.11
41	6795800	1337600	8133400	83.55	16.45
42	8761200	1884400	10645600	82.30	17.70
43	9495000	1755000	11250000	84.40	15.60
44	6110000	1162000	7272000	84.02	15.98
45	5948000	1144000	7092000	83.87	16.13
46	7602400	1396200	8998600	84.48	15.52
47	9939000	1740000	11679000	85.10	14.90
48	8083400	1502800	9586200	84.32	15.68
49	8247500	1560000	9807500	84.09	15.91
50	6426000	1098000	7524000	85.41	14.59
			Total	4177.34	822.66
			Average	83.55	16.45

Table 22: COST SHEET OF THE SAMPLE BRICK INDUSTRIES OF WEST BENGAL FOR THE YEAR 06-07

Sample Unit	1	2	3	4	5	6	7	8	9	10
Production	5000000	1500000	1500000	2000000	2500000	1200000	2000000	1500000	1300000	1500000
Particulars	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Raw metarials Consumed	1800000	526500	597000	830000	1015000	470400	818000	658500	527800	558000
Wages	4900000	1320000	1320000	2016000	2085000	1080000	1760000	1584000	1209000	1440000
Fuel	4250000	1692000	1449000	1880000	2260000	1021200	1720000	1423500	1121900	1372500
PRIME COST	10950000	3538500	3366000	4726000	5360000	2571600	4298000	3666000	2858700	3370500
Factory Overhead	1920000	430500	546000	794000	925000	471600	858000	558000	449800	555000
WORKS COST	12870000	3969000	3912000	5520000	6285000	3043200	5156000	4224000	3308500	3925500
Office Overhead	575000	247500	244500	250000	300000	204000	250000	247500	221000	247500
COST OF PRODUCTION	13445000	4216500	4156500	5770000	6585000	3247200	5406000	4471500	3529500	4173000
Selling & Dis. Overhead	1000000	180000	183000	350000	462500	98400	350000	181500	130000	181500
COST OF SALES	14445000	4396500	4339500	6120000	7047500	3345600	5756000	4653000	3659500	4354500
Profit	7155000	1023000	1435500	1506000	2382500	968400	1338000	1519500	1197300	1318500
Sales	21600000	5419500	5775000	7626000	9430000	4314000	7094000	6172500	4856800	5673000
Cost per thousand	2889	2931	2893	3060	2819	2788	2878	3102	2815	2903
Cost Per unit	2.889	2.931	2.893	3.06	2.819	2.788	2.878	3.102	2.815	2.903

Sample Unit	11	12	13	14	15	16	17	18	19	20
Production	2200000	2300000	2500000	1800000	3000000	2300000	2300000	2200000	2200000	3000000
Particulars	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Raw metarials Consumed	935000	970600	1042500	772200	1266000	862500	917700	811800	829400	978000
Wages	2178000	2375900	2415000	1782000	2772000	2300000	2070000	2155000	1980000	2880000
Fuel	1988800	2143600	2330000	1603800	2745000	2539200	2346000	2266000	2398000	2535000
PRIME COST	5101800	5490100	5787500	4158000	6783000	5701700	5333700	5233800	5207400	6393000
Factory Overhead	847000	811900	975000	75600	1128000	789900	782000	629200	734800	1128000
WORKS COST	5948800	6302000	6762500	4233600	7911000	6491600	6115700	5863000	5942200	7521000
Office Overhead	275000	276000	300000	306000	330000	287500	299000	279400	275000	300000
COST OF PRODUCTION	6223800	6578000	7062500	4539600	8241000	6779100	6414700	6142400	6217200	7821000
Selling & Dis. Overhead	385000	414000	450000	219600	645000	402500	460000	402600	407000	690000
COST OF SALES	6608800	6992000	7512500	4759200	8886000	7181600	6874700	6545000	6624200	8511000
Profit	2050400	2341400	2390000	2323800	3627000	1496300	2191900	1540000	495000	5025000
Sales	8659200	9333400	9902500	7083000	12513000	8677900	9066600	8085000	7119200	13536000
Cost per thousand	3004	3040	3005	2644	2962	3122.435	2989	2975	3011	2837
Cost Per unit	3.004	3.04	3.005	2.644	2.962	3.122435	2.989	2.975	3.011	2.837

Sample Unit	21	22	23	24	25	26	27	28	29	30
Production	1500000	2400000	1800000	2000000	3000000	2300000	2500000	2000000	2000000	2500000
Particulars	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Raw metarials Consumed	495000	744000	585000	620000	1092000	906200	1012500	766000	676000	870000
Wages	1500000	2184000	1674000	1940000	2910000	2093000	2590000	2070000	2112000	2375000
Fuel	2295000	2712000	1868400	2050000	3552000	2649600	2800000	2450000	2290000	2487500
PRIME COST	4290000	5640000	4127400	4610000	7554000	5648800	6402500	5286000	5078000	5732500
Factory Overhead	540000	921600	563400	724000	1110000	848700	1025000	734000	706000	1025000
WORKS COST	4830000	6561600	4690800	5334000	8664000	6497500	7427500	6020000	5784000	6757500
Office Overhead	247500	288000	288000	250000	300000	287500	312500	250000	240000	300000
COST OF PRODUCTION	5077500	6849600	4978800	5584000	8964000	6785000	7740000	6270000	6024000	7057500
Selling & Dis. Overhead	187500	434400	237600	366000	696000	402500	450000	340000	340000	467500
COST OF SALES	5265000	7284000	5216400	5950000	9660000	7187500	8190000	6610000	6364000	7525000
Profit	651000	2652000	2041200	1844000	2484000	2185000	1845000	1676000	1476000	2357500
Sales	5916000	9936000	7257600	7794000	12144000	9372500	10035000	8286000	7840000	9882500
Cost per thousand	3510	3035	2898	2975	3220	3125	3276	3305	3182	3010
Cost Per unit	3.51	3.035	2.898	2.975	3.22	3.125	3.276	3.305	3.182	3.01

Sample Unit	31	32	33	34	35	36	37	38	39	40
Production	2800000	2500000	2000000	2200000	2000000	2500000	2700000	2500000	2800000	3000000
Particulars	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Raw metarials Consumed	929600	865000	682000	745800	680000	1440000	1398600	1192500	1338400	1791000
Wages	2590000	2625000	1890000	2156000	2160000	3117500	3888000	3685000	3822000	3600000
Fuel	3127600	2650000	2206000	2457400	2300000	2830000	2978100	2587500	2993200	3420000
PRIME COST	6647200	6140000	4778000	5359200	5140000	7387500	8264700	7465000	8153600	8811000
Factory Overhead	1223600	955000	732000	908600	832000	1240000	1296000	1207500	1341200	1647000
WORKS COST	7870800	7095000	5510000	6267800	5972000	8627500	9560700	8672500	9494800	10458000
Office Overhead	308000	300000	250000	281600	240000	312500	345600	312500	358400	300000
COST OF PRODUCTION	8178800	7395000	5760000	6549400	6212000	8940000	9906300	8985000	9853200	10758000
Selling & Dis. Overhead	546000	465000	366000	396000	340000	455000	464400	452500	498400	618000
COST OF SALES	8724800	7860000	6126000	6945400	6552000	9395000	10370700	9437500	10351600	11376000
Profit	2371600	1872500	2152000	2142800	1822000	3565000	4147200	4122500	5168800	4830000
Sales	11096400	9732500	8278000	9088200	8374000	12960000	14517900	13560000	15520400	16206000
Cost per thousand	3116	3144	3063	3157	3276	3758	3841	3775	3697	3792
Cost Per unit	3.116	3.144	3.063	3.157	3.276	3.758	3.841	3.775	3.697	3.792

Sample Unit	41	42	43	44	45	46	47	48	49	50
Production	2200000	2800000	3000000	2000000	2000000	2600000	3000000	2600000	2500000	2000000
Particulars	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Raw metarials Consumed	1207800	1610000	1596000	1198000	1066000	1383200	1815000	1443000	1332500	1106000
Wages	2631200	3432800	3888000	2476000	2438000	3003000	4368000	3234400	3822500	2730000
Fuel	2593800	3192000	3396000	2086000	2094000	2724800	3156000	2938000	2632500	2240000
PRIME COST	6432800	8234800	8880000	5760000	5598000	7111000	9339000	7615400	7787500	6076000
Factory Overhead	1062600	1520400	1440000	912000	894000	1084200	1434000	1170000	1260000	848000
WORKS COST	7495400	9755200	10320000	6672000	6492000	8195200	10773000	8785400	9047500	6924000
Office Overhead	275000	364000	315000	250000	250000	312000	306000	332800	300000	250000
COST OF PRODUCTION	7770400	10119200	10635000	6922000	6742000	8507200	11079000	9118200	9347500	7174000
Selling & Dis. Overhead	363000	526400	615000	350000	350000	491400	600000	468000	460000	350000
COST OF SALES	8133400	10645600	11250000	7272000	7092000	8998600	11679000	9586200	9807500	7524000
Profit	3286800	4144000	4854000	2632000	2696000	3944200	4689000	3437200	2525000	3088000
Sales	11420200	14789600	16104000	9904000	9788000	12942800	16368000	13023400	12332500	10612000
Cost per thousand	3697	3802	3750	3636	3546	3461	3893	3687	3923	3762
Cost Per unit	3.697	3.802	3.75	3.636	3.546	3.461	3.893	3.687	3.923	3.762

Table 25: ESTIMATED OF PROFITS OR LOSS OF THE SAMPLED UNITS OF BRICK INDUSTRY IN WEST BENGAL (Amount in Rs.)

Sample Units	Production	Sales	Direct Expenses	Gross Profit	Indirect Expenses	Net Profit
1	5000000	21600000	10950000	10650000	3495000	7155000
2	1500000	5419500	3538500	1881000	858000	1023000
3	1500000	5775000	3366000	2409000	973500	1435500
4	2000000	7626000	4726000	2900000	1394000	1506000
5	2500000	9430000	5360000	4070000	1687500	2382500
6	1200000	4314000	2571600	1742400	774000	968400
7	2000000	7094000	4298000	2796000	1458000	1338000
8	1500000	6172500	3666000	2506500	987000	1519500
9	1300000	4856800	2858700	1998100	800800	1197300
10	1500000	5673000	3370500	2302500	984000	1318500
11	2200000	8659200	5101800	3557400	1507000	2050400
12	2300000	9333400	5490100	3843300	1501900	2341400
13	2500000	9902500	5787500	4115000	1725000	2390000
14	1800000	7083000	4158000	2925000	1276200	1648800
15	3000000	12513000	6783000	5730000	2103000	3627000
16	2300000	8677900	5701700	2976200	1476600	1499600
17	2300000	9066600	5333700	3732900	1541000	2191900
18	2200000	8085000	5233800	2851200	1311200	1540000
19	2200000	7119200	5207400	1911800	1416800	495000
20	3000000	13536000	6393000	7143000	2118000	5025000
21	1500000	5916000	4290000	1626000	975000	651000
22	2400000	9936000	5640000	4296000	1644000	2652000
23	1800000	7257600	4127400	3130200	1089000	2041200
24	2000000	7794000	4610000	3184000	1340000	1844000
25	3000000	12144000	7554000	4590000	2106000	2484000
26	2300000	9372500	5648800	3723700	1538700	2185000
27	2500000	10035000	6402500	3632500	1787500	1845000
28	2000000	8286000	5286000	3000000	1324000	1676000
29	2000000	7840000	5078000	2762000	1286000	1476000
30	2500000	9882500	5732500	4150000	1792500	2357500
31	2800000	11096400	6647200	4449200	2077600	2371600
32	2500000	9732500	6140000	3592500	1720000	1872500
33	2000000	8278000	4778000	3500000	1348000	2152000
34	2200000	9088200	5359200	3729000	1586200	2142800
35	2000000	8374000	5140000	3234000	1412000	1822000
36	2500000	12960000	7387500	5572500	2007500	3565000
37	2700000	14517900	8264700	6253200	2106000	4147200
38	2500000	13560000	7465000	6095000	1972500	4122500
39	2800000	15520400	8153600	7366800	2198000	5168800
40	3000000	16206000	8811000	7395000	2565000	4830000
41	2200000	11420200	6432800	4987400	1700900	3286500
42	2800000	14789600	8234800	6554800	2410800	4144000
43	3000000	16104000	8880000	7224000	2370000	4854000
44	2000000	9904000	5760000	4144000	1512000	2632000
45	2000000	9788000	5598000	4190000	1494000	2696000
46	2600000	12942800	7111000	5831800	1887600	3944200
47	3000000	16368000	9339000	7029000	2340000	4689000
48	2600000	13023400	7615400	5408000	1970800	3437200
49	2500000	12332500	7787500	4545000	2020000	2525000
50	2000000	10612000	6076000	4536000	1448000	3088000

Table-26: ANALYSIS OF PROFITABILITY RATIOS OF SAMPLE BRICK UNITS IN WEST BENGAL.

Sample units	Production	Sales	Gross Profit Ratio	Net Profit Ratio	Operating Ratio	Cost of goods sold to sales	Materials consumed to sales	Wages to sales	Fuel to sales
1	5000000	21600000	49.31	33.13	57.99	50.69	8.33	22.69	19.68
2	1500000	5419500	34.71	18.88	73.18	65.29	9.71	24.36	31.22
3	1500000	5775000	41.71	24.86	65.69	58.29	10.34	22.86	25.09
4	2000000	7626000	38.03	19.75	69.84	61.97	10.88	26.44	24.65
5	2500000	9430000	43.16	25.27	64.93	56.84	10.76	22.11	23.97
6	1200000	4314000	40.39	22.45	66.62	59.61	10.90	25.03	23.67
7	2000000	7094000	39.41	18.86	69.04	60.59	11.53	24.81	24.25
8	1500000	6172500	40.61	24.62	66.34	59.39	10.67	25.66	23.06
9	1300000	4856800	41.14	24.65	66.09	58.86	10.87	24.89	23.10
10	1500000	5673000	40.59	23.24	66.98	59.41	9.84	25.38	24.19
11	2200000	8659200	41.08	23.68	66.54	58.92	10.80	25.15	22.97
12	2300000	9333400	41.18	25.09	66.21	58.82	10.40	25.46	22.97
13	2500000	9902500	41.56	24.14	66.02	58.44	10.53	24.39	23.53
14	1800000	7083000	41.30	23.28	66.12	58.70	10.90	25.16	22.64
15	3000000	12513000	45.79	28.99	62.00	54.21	10.12	22.15	21.94
16	2300000	8677900	34.30	17.28	73.65	65.70	9.94	26.50	29.26
17	2300000	9066600	41.17	24.18	67.20	58.83	10.12	22.83	25.88
18	2200000	8085000	35.27	19.05	73.17	64.73	10.04	26.67	28.03
19	2200000	7119200	26.85	6.95	82.73	73.15	11.65	27.81	33.68
20	3000000	13536000	52.77	37.12	54.54	47.23	7.23	21.28	18.73
21	1500000	5916000	27.48	11.00	79.87	72.52	8.37	25.35	38.79
22	2400000	9936000	43.24	26.69	64.03	56.76	7.49	21.98	27.29
23	1800000	7257600	43.13	28.13	64.11	56.87	8.06	23.07	25.74
24	2000000	7794000	40.85	23.66	67.05	59.15	7.95	24.89	26.30
25	3000000	12144000	37.80	20.45	70.41	62.20	8.99	23.96	29.25
26	2300000	9372500	39.73	23.31	67.63	60.27	9.67	22.33	28.27
27	2500000	10035000	36.20	18.39	71.40	63.80	10.09	25.81	27.90
28	2000000	8286000	36.21	20.23	70.91	63.79	9.24	24.98	29.57
29	2000000	7840000	35.23	18.83	72.17	64.77	8.62	26.94	29.21
30	2500000	9882500	41.99	23.86	65.77	58.01	8.80	24.03	25.17
31	2800000	11096400	40.10	21.37	67.60	59.90	8.38	23.34	28.19
32	2500000	9732500	36.91	19.24	70.95	63.09	8.89	26.97	27.23
33	2000000	8278000	42.28	26.00	65.16	57.72	8.24	22.83	26.65
34	2200000	9088200	41.03	23.58	66.42	58.97	8.21	23.72	27.04
35	2000000	8374000	38.62	21.76	68.31	61.38	8.12	25.79	27.47

36	2500000	12960000	43.00	27.51	62.92	57.00	11.11	24.05	21.84
37	2700000	14517900	43.07	28.57	62.51	56.93	9.63	26.78	20.51
38	2500000	13560000	44.95	30.40	60.69	55.05	8.79	27.18	19.08
39	2800000	15520400	47.47	33.30	58.06	52.53	8.62	24.63	19.29
40	3000000	16206000	45.63	29.80	60.03	54.37	11.05	22.21	21.10
41	2200000	11420200	43.67	28.78	61.91	56.33	10.58	23.04	22.71
42	2800000	14789600	44.32	28.02	61.70	55.68	10.89	23.21	21.58
43	3000000	16104000	44.86	30.14	60.92	55.14	9.91	24.14	21.09
44	2000000	9904000	41.84	26.58	64.22	58.16	12.10	25.00	21.06
45	2000000	9788000	42.81	27.54	63.32	57.19	10.89	24.91	21.39
46	2600000	12942800	45.06	30.47	61.15	54.94	10.69	23.20	21.05
47	3000000	16368000	42.94	28.65	62.59	57.06	11.09	26.69	19.28
48	2600000	13023400	41.53	26.39	64.62	58.47	11.08	24.84	22.56
49	2500000	12332500	36.85	20.47	69.31	63.15	10.80	31.00	21.35
50	2000000	10612000	42.74	29.10	62.91	57.26	10.42	25.73	21.11

Table-27: COST VOLUME PROFIT ANALYSIS OF THE SAMPLE BRICK UNITS IN WEST BENGAL

Sample units	Production	Sales	Total variable Cost	Total Fixed Cost	Contribution	B E P	B E P Rs	C/s Ratio	BEP % of Sales	Mergine of Safety
1	5000000	21600000	11950000	2495000	9650000	1292746	5584663	44.68	25.85	74.15
2	1500000	5419500	3718500	678000	1701000	597884	2160153	31.39	39.86	60.14
3	1500000	5775000	3549000	790500	2226000	532682	2050825	38.55	35.51	64.49
4	2000000	7626000	5076000	1044000	2550000	818824	3122174	33.44	40.94	59.06
5	2500000	9430000	5822500	1225000	3607500	848926	3202148	38.26	33.96	66.04
6	1200000	4314000	2670000	675600	1644000	493139	1772834	38.11	41.09	58.91
7	2000000	7094000	4648000	1108000	2446000	905969	3213472	34.48	45.30	54.70
8	1500000	6172500	3847500	805500	2325000	519677	2138472	37.67	34.65	65.35
9	1300000	4856800	2988700	670800	1868100	466806	2146432	38.46	44.19	55.81
10	1500000	5673000	3552000	802500	2121000	567539	3046432	37.39	53.70	46.30
11	2200000	8659200	5486800	1122000	3172400	778086	3062546	36.64	35.37	64.63
12	2300000	9333400	5904100	1087900	3429300	729644	2960898	36.74	31.72	68.28
13	2500000	9902500	6237500	1275000	3665000	869714	3444935	37.01	34.79	65.21
14	1800000	7083000	4377600	1056600	2705400	702994	2766281	38.20	39.06	60.94
15	3000000	12513000	7428000	1458000	5085000	860177	3587798	40.64	28.67	71.33
16	2300000	8677900	6104200	1074100	2573700	959875	3621608	29.66	41.73	58.27
17	2300000	9066600	5793700	1081000	3272900	759663	2994590	36.10	33.03	66.97
18	2200000	8085000	5636400	908600	2448600	816352	3000094	30.29	37.11	62.89
19	2200000	7119200	5614400	1009800	1504800	1476316	4777358	21.14	67.11	32.89
20	3000000	13536000	7083000	1428000	6453000	663877	2995414	47.67	22.13	77.87
21	1500000	5916000	4477500	787500	1438500	821168	3238686	24.32	54.74	45.26
22	2400000	9936000	6074400	1209600	3861600	751771	3112333	38.86	31.32	68.68
23	1800000	7257600	4365000	851400	2892600	529807	2136182	39.86	29.43	70.57
24	2000000	7794000	4976000	974000	2818000	691270	2693881	36.16	34.56	65.44
25	3000000	12144000	8250000	1410000	3894000	1086287	4397288	32.07	36.21	63.79
26	2300000	9372500	6051300	1136200	3321200	786842	3206382	35.44	34.21	65.79
27	2500000	10035000	6852500	1337500	3182500	1050668	4217380	31.71	42.03	57.97

28	2000000	8286000	5626000	984000	2660000	739850	3065197	32.10	36.99	63.01
29	2000000	7840000	5418000	946000	2422000	781173	3062197	30.89	39.06	60.94
30	2500000	9882500	6200000	1325000	3682500	899525	3555821	37.26	35.98	64.02
31	2800000	11096400	7193200	1531600	3903200	1098709	4354183	35.18	39.24	60.76
32	2500000	9732500	6605000	1255000	3127500	1003197	3905448	32.13	40.13	59.87
33	2000000	8278000	5144000	982000	3134000	626675	2593809	37.86	31.33	68.67
34	2200000	9088200	5755200	1190200	3333000	785611	3245357	36.67	35.71	64.29
35	2000000	8374000	5480000	1072000	2894000	740843	3101910	34.56	37.04	62.96
36	2500000	12960000	7842500	1552500	5117500	758427	3931685	39.49	30.34	69.66
37	2700000	14517900	8729100	1641600	5788800	765672	4117016	39.87	28.36	71.64
38	2500000	13560000	7917500	1520000	5642500	673460	3652849	41.61	26.94	73.06
39	2800000	15520400	8652000	1699600	6868400	692866	3840556	44.25	24.75	75.25
40	3000000	16206000	9429000	1947000	6777000	861886	4655907	41.82	28.73	71.27
41	2200000	11420200	6795800	1337600	4624400	636346	3303274	40.49	28.92	71.08
42	2800000	14789600	8761200	1884400	6028400	875244	4623038	40.76	22.34	77.66
43	3000000	16104000	9495000	1755000	6609000	796641	4276369	41.04	26.55	73.45
44	2000000	9904000	6110000	1162000	3794000	612546	3033328	38.31	30.63	69.37
45	2000000	9788000	5948000	1144000	3840000	595833	2916008	39.23	29.79	70.21
46	2600000	12942800	7602400	1396200	5340400	679747	3383780	41.26	26.14	73.86
47	3000000	16368000	9939000	1740000	6429000	811946	4429977	39.28	27.06	72.94
48	2600000	13023400	8083400	1502800	4940000	790947	3961855	37.93	30.42	69.58
49	2500000	12332500	8247500	1560000	4085000	954712	4709596	33.12	38.19	61.81
50	2000000	10612000	6426000	1098000	4186000	524606	2783558	39.45	26.23	73.77