CHAPTER - 5

SECTION - B

PROBLEMS OF DIESEL ENGINE COMPONANT MANUFACTURERS

A) Raw Material Problem

B) Financial Problem.

C) Marketing Problem.

D) Labour Problem

Conclusion.

A) **Raw Material Problem** :

Like manufacturers of diesel engines, manufactuers of diesel components, also face raw material proble. These units manufacture crankshafts, connecting rods, camshafts, piston rings and oil engine heads. Major requirement of these units is casting. Supply of casting fluctuates from time to time due to uncertain and inadequate supply of pig-iron to foundries; which are the main source of supply of casting. There are about 100 foundries in Kolhapur. However most of them are either sick or are closed due to shortage of pig-iron. As a result many manufacturing units feel shortage of casting which is the main requirement of component manufacturers.

Table 5.21

Table showing intensity of the Problems of raw material

Priority	Shortage	High Cost	Uncertain Supply	Poor Quality
First Priority	31 (93.93)	2 (4.87)	8 (24.24)	1 (7.14)
Second Priority	-	11 (26.83)	20 (6.06)	8 (57.14)
Third Priority	2 (6.06)	19 (46.34)	5 (15.15)	5 (37.51)
Fourth Priority	-	9 (21.95)	-	-
Total	33 (100)	41 (100)	33 (100)	14 (100)

NOTE : 1) Figures show number of units.

2) Figures in bracket show percentage to vertical total.

Table 5.21 shows that 33 (76.74 percent) units face shortage of raw material. Out of them 93.93 percent units gave first priority to this problem. Units giving third priority to this problem were small proprietory units. Ten units (23.25 percent) were not affected by shortage of raw material, because the components they manufacture do not require casting. Shortage of raw material is observed only in those units which require casting.

Fourtyone units (94.34 percent) have to buy raw material at high cost. Cost of raw material is not only high but it is fluctuating frequently. This is evident from table 2.1. Due to increasing prices of raw material cost of production increases. However price of product does not rise to match increasing cost of production. As a result most of these units get very marginal profit or sometimes they incure losses.

Uncertain supply of raw material also creates hurdles in manufacturing components. The problem of uncertain supply of raw material was also observed in units requiring casting. Uncertainty in supply of casting was mainly due to uncertain business conditions in foundries.

Poor quality of casting was the result of old and defective methods; fourteen units face this problem. Twenty seven units did not face the problem of poor quality, because most of them produce components which do not require casting; and remaining units purchase standard castings from foundries.

Table 5.22

Organisationwise Classification of units facing problem of raw material

Organisation	Shortage	High cost	Uncertain Supply	Poor Quality
1) Proprietory	16 (48.48)	21 (51.21)	18 (54.54)	6 (42.85)
2) Partnership	15 (45.45)	18 (43.10)	14 (42.52)	8 (57.14)
3) Private Limited	2 (6.06)	2 (4.87)	1 (3.03)	-
Total	33 (100)	41 (100)	33 (100)	14 (100)

NOTE : 1) Figures show number of units.

2) Figures in bracket show percentages to vertical total.

It is evident from table 5.22 that units producing components face simultaneously the problems of shortage, high cost, uncertain supply. These problems are mainly related to castings. Those units who do not face the problem, produce components, which do not require casting. It is clear from first row in table 5.22 that out of 22 proprietory units covered by survey, six units (27.27 percent) do not suffer from shortage of raw material because they produce components which require no casting.

Table 5.23 shows that proportion of graduates facing raw material problems is higher than other producers. S.S.C. educated and I.T.I. trained producers, engineering graduates all face, raw material problem.

Table 5.23

Classiciation of raw material problem faced by different producers at different educational level.

Education	Shortage	High Cost	Uncertain Supply	Poor Quality
Illitrate	-	-	-	-
Primary Educated	3 (6.97)	3 (9.75)	2 (6.06)	3 (21.42)
S.S.C.	6 (18.18)	9 (21.25)	6 (18.18)	1 (7.15)
Eleventh Twelth	1 (3.03)	2 (4.87)	2 (6.06)	1 (7.15)
Graduate	17 (12.12)	18 (41.46)	16 (48.48)	7 (50)
ITI	4 (12.12)	5 (12.19)	4 (12.12)	1 (7.15)
Engineering Graduates	1 (3.03)	3 (7.31)	2 (6.06)	1 (7.15)
Engineering Diploma	1 (3.03)	1 (2.43)	1 (3.03)	-
Total	33 (100)	41 (100)	33 (100)	14 (100)

NOTE : 1) Figures show number of units.

2) Figures in bracket show percentage to vertical total.

Illitrate producer does not face any problem regarding raw material because he produces components which do not require casting. Almost all primary educated producers face all aspects of raw material problem. These units produce crankshaft, crankcases which require castings. Out of 9 S.S.C. Qualified producers one faces all aspects of raw material problem; six of them face 3 aspect that is shortage, high

cost and uncertainly.

S.S.C. Qualified entrepreneurs have large units, they manage to get raw material regularly by paying higher prices. Eight S.S.C. producers receive castings from foundries which produce standard casting. Hence they do not suffer from poor quality of raw material.

Out of 18 graduates 17 graduates are suffering from problem of shortage. The only one graduate does not suffer from this problem because he does not require casting. Higher secondary educated face all problems regarding raw material.

One engineering diploma holders suffers from three major aspects of raw material. He owns a proprietory unit. As he purchases casting; poor quality of raw material was not realised by him.

The discussion made in preccding pragraphs reveals that producers at all educational level suffer more or less from all aspects of raw material problem.

B) **Finance Problem** :

Inability to find adequate fixed and working capital is the greatest bottelneck in the growth of small industrial units. Many small units get in trouble due to inadequacy of finance. These units rely mainly on their own resources, banks and private invesors for finance. But as their own resources are meagre, they can not raise adequate finance from outside also.

Banks do not advance funds because economically the units are not viable. Bank procedure to extend loans is very complicated and requires a lot of paper work. Therefore, many units prefer to obtain loans from private money lenders. Table 5.24 shows intensity of financial problem.

Table 5.24

Table showing priorities of financial problem

Problem	First Priority	Second Priority	Third Priority	Total
Inadequate Funds	26 (78.78)	5 (15.15)	2 (6.06)	33 (100)
High Rate of Intrest	1 (16.66)	4 (69.44)	1 (16.66)	6 (100)
High Security	1 (16.66)	3 (50)	2 (33.33)	6 (100)
Late Sanction	2 (25)	4 (50)	2 (25)	8 (100)
Total	30 (56.60)	16 (30.19)	7 (13.11)	53 (100)

NOTE : 1) Figures show number of units.

2) Figures in bracket show percentages to horizontal total.

As indicated in table 5.24, most of the units face the problem of inadequate finance. It is the foremost problem in finance area. Ten units (23.26 percent) do not face paucity of finance. They are well established proprietory and partnership units. Scrutiny of the answers given to questions in the schedule also indicates that they supply components of diesel engines to renowned producers who pay regularly and promptly the price of components supplied to them.

Six units (13.95 percent) pay high rate of intrest because they seek financial accomodation from money lenders.

Table 5.25
Organisationwise Classification of units facing financial problem.

Organisation	Indequate Funds	High Intrest	High Security	Late Sanction
Propriatory	16 (48.48)	4 (66.66)	4 (66.66)	5 (62.5)
Partnership	15 (45.45)	1 (16.66)	2 (33.33)	3 (37.5)
Private Limited	2 (6.06)	1 (16.66)	-	-
Total	33 (100)	6 (100)	6 (100)	8 (100)

NOTE : 1) Figures show number of units.

2) Figures in bracket show percentages to vertical totals.

It is observed from Tabel 5.25 that more proprietory units suffer from inadequacy of finance (48.48 percent) than partnership (45.45) and private limited (6.06 percent) concerns. Out of 22 proprietory units 16 (72.72 percent) units face problem of inadequate finance. Out of 19 partnership units 15 units (78.94 percent) face this problem and all private limited units have inadequacy of finance.

It was observed during survey that original investment in proprietory unit was smaller than that in private limited units. It

was the result of low initial capital. Whereas in partnership and private limited units it was the result of incapability of partners or directors to plogh back enough profit.

Six units out of 43 (13.95 percent units) pay high rate of intrest. It was so because they acquire funds from trade creditors or money lenders at high rate of intrest. Sometimes rate of intrest charged by banks is also higher than 10 to 12 percent. Small producers earn so low profit that they are not able to pay even that intrest on loans.

Table 5.26 shows that illiterate producer has no financial problem as his unit is well established before 20 years. S.S.C. educated producers face all four problems regarding finane. But problem of inadequate fund was more severe. Only one S.S.S. educated producer having large partnership unit has no problem of inadequate funds. Out of nine S.S.C. educated producers, 6 producers (66.67 percent) borrow from private money lenders, therefore they do have problem of high intrest rate.

The problem of high security was mainly observed in case of producers having very small proprietory and partnership units. Eight producers face the problem of late sanction of loans by banks. These 8 producers are having small proprietory units and bank require a lot of paper work and accounts. As a result, loans are not received by them on time. Remaining 35 producers (81.40 percent) receive loans (cash credit) on time from banks.

Table 5.26

Educationwise Classification of producers facing the problem of finance

Education of Producers	Inadequate funds	High rate of intrest	High security security	Late Sanction
1) Illitarate	-	-	-	-
2) Primary Educate	2 (6.06)	-	1 (14.28)	1 (15.20)
3) S.S.C.	8 (24.24)	3 (50)	1 (14.28)	2 (25.00)
4) Eleventh Twelfth	2 (6.06)	-	1 (14.28)	-
5) Graduates	16 (48.48)	1 (16.66)	3 (42.85)	5 (62.50)
6) Engineering Graduate	1 (3.03)	-	-	-
7) Engineering Diploma	1 (3.03)	1 (6.66)	-	-
8) ITI	3 (9.09)	1 (6.66)	-	-
Total	33 (100)	6 (100)	6 (100)	8 (100)

NOTE : 1) Figures show number of units.

2) Figures in bracket show percentage to vertical totals.

C) **Marketing Problem** :

Diesel engine component manufacturers being small, face all those problems, in marketing their products, that a small producer faces. Large scale units have established distribution network. It is difficult for a small unit to break their distribution network. Besides

the competition between these unequals, there is a great deal of competition amongst the small producers themselves which further weakens their marketing position.

Small component manufacturers generally are at odds in marketing their product because of poor designing, absence of quality control methods, lack of standardisation and poor bargaining power because they can not extend service after sales.

Table 5.27

Classification of problems in marketing by priority

Priority	Competition	Poor Design	Lack of Standar-disation	Poor Quality	Late Payment
First Priority	36 (92.30)	-	1 (7.69)	-	4 (16.66)
Second Priority	-	2 (100)	11 (84.61)	6 (60)	11 (45.43)
Third Priority	-	-	-	4 (40)	9 (37.5)
Fourth Priority	2 (5.12)	-	1 (7.69)	-	-
Total	38 (100)	2 (100)	13 (100)	10 (100)	24 (100)

NOTE : 1) Figures show number of units.

2) Figures in bracket show percentage to vertical total.

Table 5.27 shows intensity of various aspects of marketing problems. Thirty nine (90.69 percent) units have to face competition. Out of these units, 36 (92.30 percent) units gave first priority to competition. This shows the intensity of problem. Units in all organisations face competition. However, one thing should be noted that these units have not competition from largescale units but they have competition among themselves, because there are a number of units manufacturing each spare part. Marketing problem due to poor designing (2 units), lack of standardisation (13 units) and poor quality (10 units) was observed only in case of few units. It is so because remaining units manufacture components according to orders and drawings received from companies to whom they supply spare parts.

During survey it was observed that usually a producer takes to produce one or two components of diesel oil engine and for years keeps on producig the same old parts in the same old method without regard to change in demand or change in production. Instead of producing what is demanded, in the market his attitude is to sell what he has produced. As a result not only the demand for the component he produces is less but the rejection rate is also as high as 5 to 10 percent.

Diesel oil engine producers test the engine before it is dispatched. The testing procedure is generally acceptable. However, on their part the component producers do not inspect the components before they are dispatched to the engine manufacturer. So many substandard components are fitted into the engine which makes the engine substandard.

So it is necessary that rigerous inspection procedure should be followed by component manufacturers. This will improve demand for components and for engines too.

Table 5.28

Organisationwise Classification of Marketing Problem

Organisation	Competition	Poor Design	Lack of standar-disation	Poor Quality	Late Payment
1) Proprietory	19 (50)	1 (50)	7 (53.84)	4 (40)	10 (43.83)
2) Partnership	17 (44.73)	1 (50)	6 (46.15)	6 (60)	13 (54.16)
3) Private Limited	2 (5.26)	-	-	-	1 (4.16)
Total	38 (100)	2 (100)	13 (100)	10 (100)	24 (100)

NOTE : 1) Figures show number of units.

2) Figures in bracket show percentage to vertical total.

Organisationwise classification (Table 5.28) shows that half of the units facing competition were proprietory units. 19 proprietors (86.34 percent) face competition followed by partnership units, out of 19/17 partnership units (89.47 percent) face competition and all private limited units face competition for their product. Marketing problem due to lack of standardisation was observed only in 13 (30.23 percent) units; 7 proprietory (16.27 percent) units; 5 units (26.31 percent) of total partnership units produce non standardised spare parts. Poor quality of components was the problem observed in 10 (23.25 percent of total) units. These units also supply components to non standardised engines.

Table 5.29

Classification of marketing problem on the basis of education of entrepreneurs

Education of Producer		Competition	Poor Design	Lack of Standar-	Poor Quality	Late Payment
1)	Illitrate	-	-	-	-	-
2)	Primary Educated	2 (6.65)	-	-	-	-
3)	S.S.C.	8 (25.80)	1 (50)	5 (38.40)	1 (10)	5 (20.83)
4)	Eleventh Twelfth	2 (6.65)	-	-	1 (10)	2 (8.33)
5)	Graduate	14 (45.16)	-	8 (61.53)	8 (86)	10 (41.66)
6)	Engineering Graduate	1 (6.25)	-	-	-	1 (4.16)
7)	ITI	3 (9.67)	-	-	-	5 (20.85)
8)	Engineering Diploma	1 (6.25)	1 (50)	-	-	1 (4.16)
	Total	38 (100)	2 (100)	13 (100)	10 (100)	24 (100)

NOTE : 1) Figures show number of producers.

2) Figures in bracket show precentage to vertical total.

Twenty four units (55.81 percent) receive late payment. Out of these 29 units, 10 units are (45.45 percent) proprietory and 13 (30.23 percent) partnership units. Only 1 private limited (50 percent) of total thro/private limited units face this problemof late payment.

It seems from table 5.29 that graduates have to face severe competition. Out of 18 graduate proprietors 14 (77.78 percent) are eclipsed by competition. It is because they operate proprietory units. They have very limited contact with distributors and dealers. All diploma holders, 88.88 percent of S.S.C. Educated and 33.33 percent of engineering graduates complain that they have to face severe competition. And this competition is from Kolhapur co-producers.

Out of 43 producers covered in survey, 30 (67.76 percent) producers produce standardised components. They have to maintain quality because they supply components to large producers where inspetion is strict.

Proprietors who supply components to small assemblers receive payment late.

D) **Labour Problem** :

Labour problem such as absenteesm, late reporting, low speed were also observed in component manufacturing units. This phenomenon lowers productivity of the labour, Table 5.30 giving priorities of labour problem show intensity of this problem.

Table 5.30

Labour Problem as Classified by Priority

	First Priority	Second Priority	Third Priority	Total
Absenteesm	37 (97.36)	1 (2.63)	-	38 (100)
Late Reporting	2 (12.5)	10 (62.5)	4 (25)	16 (100)
Low Spee d	-	12 (63.15)	7 (36.84)	19 (100.00)
Total	39	23	11	73 (1000)

NOTE : 1) Figures show number of units.

2) Figures in bracket show percentage to horizontal total.

Table 5.30 shows that labour absenteesm problem was observed in 38 (88.57 percent) units. Remaining 5 units were large units which pay adequate wages to labour. Work flow, in these units is continous, as a result of this labour absence was not observed in these units.

Problem of late reporting was observed only in 16 (37.20 percent) units. The problem of late reporting was observed in units which employ labourers coming from outside city. Remaining 27 units (62.79 percent) do not face this problem. These units employ local

labour. Low working speed of labour was also observed in only 19 units. More than half of the units do not face late reporting.

All three problems regarding labour were observed in 8 units only. The problem of either late reporting or low speed was observed along with absenteesm problem.

Table 5.31

Organisationwise Classification of Units facing labour problem

Organisation	Absenteesm	Late Reporting	Low Speed
Propreitory	19 (50)	8 (50)	11 (57.89)
Partnership	18 (47.36)	8 (50)	8 (45.10)
Private Limited	1 (2.63)	-	-
Total	38 (100)	16 (100)	19 (100)

NOTE : 1) Figures show number of units.

2) Figures in bracket show percentage to vertial total.

Table 5.31 shows organisationwise classification of units facing labour problem. There were 8 proprietory and partnership units each facing all three problems. In private limited companies other two dimensions of labour problem are conspicuously absent.

Table 5.32

Educationwise Classification of Producers facing labour problem.

Education	Absenteesm	Late Reporting	Low Speed
1) Uneducated	1 (2.63)	1 (6.25)	1 (5.26)
2) Primary	3 (7.89)	1 (6.25)	3 (15.78)
3) S.S.C.	8 (2.05)	4 (25)	2 (10.52)
4) Eleventh Twelfth	1 (2.63)	1 (6.25)	-
5) Graduate	16 (42.10)	8 (50)	10 (52.63)
6) Engineering Graduate	2 (5.26)	1 (6.25)	1 (5.26)
7) Engineering Diploma	1 (2.63)	-	-
8) ITI	6 (15.78)	-	2 (10.52)
Total	38 (100)	16 (100)	19 (100)

NOTE : 1) Figures show number of units.

2) Figures in bracket show percentages to vertical total.

Eighteen partnership units out of 19 (94.73 percent) and 19 prorpietory units out of 22 (86.36 percent) face absenteesm of workers. Reasons of absence are illheath and social or religious functions. Absence because of ill treatment was rarely observed.

Workers reporting late on duty or working slowly were the two less serious dimensions of labour problem. This did not hamper production much. Out of 22 proprietory units 8 (36.36 percent) had to experience late reporting and 11 units (50.00 percent) were finding workers working at low speed. Units in which labour turnover was higher workers speed was less. Workers take time to adjust to the new machine and new environment.

It was observed from table 5.32 that proportion of graduates facing all types of problem related to labour, is higher than that of other producers. Almost all graduate entrepreneurs experience labour absenteesm and 50 percent of the total producers facing, labourers reporting late are graduates. Two graduates who do not experience absenteesm have partnership units, which give higher bonus and other facilities to the workers.

There was one uneducated entrepreneur facing all three problems. Except two graduates, and two ITI trained and one engineering graduate all other producers face the problem of absenteesm.

All uneducated, primary educated producers experience workers working at low speed.

Conclusion :

At present there are 220 diesel engine component manufacturers, working in Kolhapur. 20 percent of them were surveyed. These units constitute cluster B. It was found that proprietory form of organisation was most popular in this cluster too. They are followed by partnership units. No change in organisation was observed in this cluster. Educational status of producers show that graduates were in majority; S.S.C. educated were next in order. Most of the units use lathes, shaping machines and drilling machines. Special purpose machines were used in few large units.

Majority of the component manufacturers require casting and sheet metal as raw material. By terms of capital invested in the firm, proprietory unit on an avarage has grown by 12 times partnership firm by 2.6 times and private limited company by 2.4 times.

Analysis of cost of production of component manufacturers indicates that cost of raw material is 30 to 81 percent of total cost and it is the major component of cost of production. Labour charges account for 1 to 20 percent. Machine charges account for 11 to 20 percent of total cost. Transportation, advertisement, overheads and sundry expenses are marginal share of total cost. Use of all types of labour was higher in partnership units than in proprietory and private limited units. Labour to machine ratio is higher in private limited units than in proprietory and partnership units. Private limited units adopt capital intensive techniques of production.

Market for diesel engine components is complex in character like that for diesel oil engines. Component market is also imperfect and competative. Most of the producers supply spare parts to oil engine manufacturers within Kolhapur and outside Kolhapur at state and national level. Those who sell in local market prefer direct contact with buyers. No producer depends upon one channel to sell his product. Only 5 firms export their components Middle East and Far East countries.

All private limited units show very good performance regarding capacity utilization. Partnership units follow them in showing very good performance. Proportion of units showing good performance was higher in proprietory units than in partnership units. Less than half of the units prepared plans for future development. Majority of them have plans to diversify or change the production.

Like diesel engine manufacturers, component manufacturers also face a number of problems. Some of them are related to raw material, finance, marketing and labour.

Uncertain supply of raw material, poor quality and fluctuating costs are aspects of raw material problem. Inadequcy of funds, high rate of intrest were the aspects of financial problems. Absenteesm, late reporting and working slowly are the three problems related to labour.

Diesel engine component manufacturers face marketing problem due to lack of standardisation, poor quality and lack of service after sale.