
CHAPTER IX: ANALYSIS AND INTERPRETATION OF DATA

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After analysing the detailed information of 5 selected companies, it is necessary to consolidate the collected information and to draw some general conclusions in the light of features of planning of an industrial estate. It is helpful for drawing some specific conclusions. At the end of this chapter an effort is made to compare the industrial estate with general policies and approaches of the industrial estate and suggestions made therefrom.

Evaluation of the Data

9.1 Manager's View-points on Their Expectations Regarding Benefits and Difficulties.

Table 9.1: Fulfilment of Managerial Expectations
(5 companies consolidated)

Items of benefits	Not expected	Expected			Total
		Satis- factory	Unsatis- factory	Cannot say	
Land for factory	-	47	-	2	49
Land for housing	3	-	44	2	49
Labours	8	-	33	8	49
Raw materials	23	-	-	26	49
Finance	16	23	-	10	49
Transportation	5	23	-	10	49
Technical help	25	2	2	20	49
Water supply	-	13	34	2	49
Electricity supply	2	9	30	8	49

Source: Personal interview and questionnaire.

1] Land for Factories: An Industrial Estate is a track of land developed and sub-divided into plots according to plan with provisions of roads, transport and public utilities etc. M.I.D.C. has provided plots for factory buildings i.e., sheds. Managers are satisfied with the plots provided for this purpose with the difficulty of no provision for the developments in the future.

2] Land for Housing: For improving the standard of living of workers, housing problem must be solved. There is the scheme by the Government named "Industrial Housing Scheme". For every State it is voluntary to adopt M.I.D.C. Land has not been provided by the M.I.D.C. for housing and there is no good provision to finance for the scheme.

3] Labours: From 19th century the pressure of population on land and impoverishment of agricultural population have been increasing. Supply of labours to the modern sector is from agricultural sector. Dhatav-Roha and the Raigad District are engaged in only a single occupation i.e., agricultural occupation. So, managers were expecting unskilled labours in adequate number locally. They were not expecting labour problems. But their experience is in adverse. Skilled labours are not available. In the case of unskilled labours there is the absenteeism and heavy demands. So, there is the existence of labour problems.

4] Raw Material: Nearabout all companies bring raw materials from large markets like Bombay, Pune, Kolhapur and outside the

Maharashtra State, or they import it. They have not expected it locally. So, they have not tried to procure it locally.

5] Finance: Managers did not consider this factor as an important one. They were not expecting it either locally or from M.I.D.C. Perhaps, Managers are not responsible for finance, so they were silent.

6] Transportation and Technical Help: Availability of adequate transport and technical facilities are important factors for Industrial Estates. Generally road and railway facilities are available for transportation. When the researcher visited the estate there was no Railway line. The network of roads was bad. Local transport companies were available. Some managers expected this factor and they are unhappy with the local transport. Only 24 managers expected the technical help and they did not get in a way which was expected.

7] Water and Electricity Supply: Those are primary requisites for chemical industries and in the Dhatav Industrial Estate, the major industries are chemical industries. All managers expected both and they are not happy with the supply of water and electricity. Full load of water is not available. M.I.D.C. is not in a position to give more connections or more water. When M.I.D.C. established this estate, first two companies were granted some special concessions. The main pipeline of water is of 10" dia., whereas they (2 companies) were given 8" dia.

pipelines separately. Naturally all the remaining companies are dependent on the sympathy of those two companies and get water only when the two companies are not using it. The only solution seems to be to have pressured water. But as already indicated M.I.D.C. is not in a position to do so. M.S.E.B. is responsible for electric supply which is interrupted. So, both basic requirements are not fulfilled as they were expected.

Table 9.2 on the following page gives managers' view-point on the services from Institutional Agencies.

As regards the Garden, Table 9.2 indicates clearly that out of all answers only 7 answers are positive i.e., 7 managers only considered that the garden provided by the M.I.D.C. is sufficient and it is the fulfilment of expectation. When the researcher visited the estate there was no garden. Only a small plot was reserved for it. Perhaps the manager might be on the wrong track when was replying.

1] Telephones: The system of communication is available through Post and Telephones. An adequate provision is made of telephones but they are normally dead. Specially in the rainy season no technician repairs the line in a week.

2] Water Effluent Treatment Plant: As regards the drainage and sewerage, arrangement for such essential, it may be mentioned here that there is a good system for drainage. In chemical

Table 9.2: Fulfilment of expectations regarding Institutional services (5 companies consolidated)

Name of the service	Not expected	Expected			Total
		Below expectation	As per the expectation	Cannot say	
Telephones	-	35	-	14	49
Warehouses	40	02	-	07	49
Water effluent treatment plant	05	22	-	22	49
Training and education	05	37	07	-	49
Good roads	-	34	10	05	49
Street lights	12	26	03	08	49
Playgrounds	18	20	07	04	49
Gardens	16	21	07	05	49
Hospitals	06	26	06	11	49
Entertainment provisions	13	28	03	05	49
Shopping centre	02	41	04	02	49

Source: The questionnaire and personal interview.

companies it is essential to treat the effluents and then to allow to go through the drainage. Every company must construct such plant for treating the effluents. A small plant requires minimum Rs. 20,00,000 for construction (in 1977). So, M.I.D.C. was

requested to construct a large common plant. Annual expenditure could be divided in the ratio of every company's effluents. M.I.D.C. refused the proposal. This proposal must be considered as a means of national saving.

3] Training and Education: Shortage of skilled and trained workers creates serious problems in the economic development of a country. Heavy burden on agriculture is compelling them to shift towards industrial work. They are raw in nature and educational and training facilities are not available. In the Dhatav Industrial Estate there is no job-oriented training school or any institution like I.T.I. Even there is no science college.

4] Good Roads and Street Lights

The plans for roads occupy a prominent place in the layout. The design of the road network must be carefully designed so that maximum economical use can be possible and the major and minor roads can grow as the estate develops. In the Dhatav Industrial Estate there is a good plan for roads. But there is no network of maintenance of major roads and minor roads. Also as regards the street light the situation is improper.

5] Playgrounds and Garden, Entertainment Provision: The situation regarding means of amusement is not well. The entertainment is quite essential for the peace of mind and for the health. There is a playground in an estate. But the colony for workers is at long distance from the ground, so neither workers play nor their family

members can play. There is a reserved plot for garden. It can be expected that garden will be raised there in the next plan. There is no theatre of entertainment.

It must be admitted that there is a club for officers and staff but not for workers. The fees are quite high, which a worker cannot afford.

6] Hospital and Shopping Centre

Those are common facilities. There is no shopping centre and no hospital. They have developed a Primary Health Centre for First Aid and they use to go to the hospital at Roha at the distance more than 10 km.

9.3 A Managers' View-point on the Performance of their Units on the Basis of Production

Table 9.3: Performance of companies A, B, C, D, & E on the basis of production

Year	Actual production in crores	Variation in crores	Percentage change over previous year
1980-81	705	-	-
1981-82	838	+ 133	+ 18.86
1982-83	1,083	+ 245	+ 29.23
1983-84	1,292	+ 209	+ 19.29
1984-85	1,286	- 006	- 00.46
1985-86	1,475	+ 189	+ 14.69

Source: Questionnaire and personal interview.

Table 9.3 clearly indicates that from the year 1980 to 1986 the total production of concerned companies is constantly less than the capacities of their plants. Absenteeism, strikes, low demand in the markets are the general reasons for low production. But they are getting profits and therefore they are adding the capacities through erecting new machinery. Column No. 4 of the table shows that there is constant increase in the production per year as compared with the previous year, except the year 1984-85. But reduction in the production is quite low i.e., 00.46% only.

9.3 B. Managers' View-point on the Performance of Their Units on the Basis of Labour Cost (Companies A, B, C, D, & E)

The cost structure depends on the relative value of the different components of cost. The cost structure varies from industry to industry. In some cases, cost of raw material, cost of power, cost of transportation may be the most important cost of the production. These are chemical companies where labour cost is very important factor. The overall performance of those companies can be tested by comparing the components in percentages with the industries in other developed areas in Maharashtra and India.

Table 9.4 on the following page shows the average percentage of labour cost to the total labour cost (in companies A, B, C, D, & E).

The overall performance of Dhatav Industrial Estate on the

Table 9.4: Average percentage of Labour Cost to the total Labour Cost.

Year	Area	Average Labour cost per manday worked Rs. wages	Salaries and Bonus	Benefits in kind	Old age benefits	Other social security charges	Other elements	
1975-76	India	21.88	80.80	6.70	2.80	6.80	1.50	1.40
	Maharashtra	26.65	79.30	7.50	2.80	7.50	1.60	1.30
	Dhatav (Average)	25.86	79.60	8.27	3.60	4.32	2.32	1.89
1980-81	India	28.02	80.40	6.40	2.20	7.00	2.20	1.80
	Maharashtra	35.11	79.40	6.60	1.80	7.60	2.80	1.80
	Dhatav (Average)	35.14	79.66	7.63	2.76	4.92	3.10	1.93
1985-86	India	36.49	80.50	6.20	2.30	7.00	2.20	1.80
	Maharashtra	44.81	79.50	6.50	2.00	7.50	2.40	2.10
	Dhatav (Average)	43.48	80.29	7.11	2.48	4.90	2.87	2.35

Sources: 1. Indian Labour Yearbook and Labour Statistics under the annual survey of Industries (For All India and Maharashtra figures).

2. Government Publicity Department, Dist. Raigad.

3. District Industries Centre.

basis of labour cost is fair and satisfactory. Companies in general, which were under consideration, also have been successful in maintaining the satisfactory level of performance. Average labour cost per manday worked is less in two series, whereas in one series it is high by a very small percentage as they are compared with the industrially developed parts in Maharashtra State and in India.

The percentage distribution of labour cost points out that in the time series which was selected for the study, cost on salaries and wages and on bonus it is constantly high. The cost on other factors like old age benefits, social and industrial security and on other factors, is constantly low as it is compared. Companies are engaged in saving some amounts on those factors because normally labours are interested in wages and in bonus, rather than other factors. Actually old age benefits and security are quite important factors like wages. The illiteracy of workers might be a reason. Companies are completing the rules of shop Act, Factory Act and other rules of Government. So, it can be said that the performance of the Estate on the basis of labour cost is better.

9.3 C. Managers' View-points on the Performance of Their Units on the Basis of Labour Relations

A man constitutes an active part of the organisation. Human resources act as the backbone of an organisation. Workers

live unitedly, work unitedly. Naturally, there are certain disputes amongst them. The relation problems are inherent in the industrial society. The solution depends upon the development of industrialisation; cultural and national characteristics of the society. Workers' social and economic needs are to be satisfied. They should get psychological satisfaction at the place where they work. Working conditions are quite important for helping them in motivation to work and for maintaining the relations.

Table 9.5: The rating of working conditions by workers
(5 companies consolidated)

Working conditions	Good/ Adequate	Bad/ Inadequate	Reasonable/ Fair	Total
1 Ventilation	123	31	46	200
2 Cleanliness	110	36	57	203
3 Drinking water	158	-	45	203
4 Toilets	184	03	16	203
5 Lockers	090	63	49	202
6 Quality of food	043	113	41	197
7 Safety measures	051	42	94	187
8 Tools and equipments	121	34	45	200

Notes: 1. Due to non-responses in each variable the totals are not equal.

2. For testing minimum sample of 42.18 per cent workers in A,B.C.D. & E. companies is selected.

Source: Questionnaire and personal interview.

The Table clearly indicates that the conditions of ventilation, cleanliness, drinking water, toilets and lockers do not pose great problem.

As regards the quality of food, out of 197 responses, 113 opined that the quality is bad. The charges of food by canteens are very nominal. The company bears nearabout 98 per cent expenses. Health is directly connected with the working conditions, especially the standard of food.

Regarding safety measures, out of 187 responses 42 considered that the measures provided are inadequate. Normally, accidents are caused by psychological or physical unfitness of workers. Psychological fitness depends upon the social and economic security, training, education and relations with the management. Physical fitness depends not only on the body, but atmosphere, machinery, its maintenance and safety measures with provisions. Man is a creature of machines; so machinery is not the reason for accidents. Safety measures and equipments with tools are to be maintained in good condition. In this estate the situation of safety measures is not good.

Labour-Management relations also play a role in the productivity of the unit. So, labour relations is the factor by which the performance can be counted.

Table 9.6 on the next page shows the industrial disputes

in companies A, B, C, D, & E. (5 companies).

Table 9.6: Disputes in Companies A to E

Reasons	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	To- tal
Wages	-	1	-	-	1	-	2
Bonus	5	5	5	5	5	5	30
Personal	1	-	-	1	-	-	2
Retrenchment	-	2	1	1	-	1	5
Any other	-	-	-	-	1	-	1
Total	6	8	6	7	7	6	40

Source: Personal interview and questionnaire.

The above table shows clearly that in the time series for the study of 6 years in 5 companies there were 40 disputes. The major reason is the demand for more bonus and then termination of services of workers.

In industrial society, problem of industrial conflict is inherent. Workers need social security and economical security. In today's set-up of industries, employers as well as employees are fully organised. Therefore, workers' relations with management represent the importance of collective bargaining, i.e., agreement through voluntary negotiation. Normal period of such agreements is 3 years. Main contents are wages and other living conditions. It normally does not include the bonus issue. The

general meaning of bonus is the Gift. But the concept of bonus has different meanings like payment of an incentive for good attendance, for higher productivity, for higher quality etc. It is also assumed as a share in the profits which labours may consider as a right for industrial co-partnership. The management may consider it as just an additional payment to workers. As per Act companies which are not getting profit are exempted from the payment of bonus. But the demand for bonus from workers always exceeds the payment decided by the management. It means normally in every company in every year there is a dispute over the bonus issue. But the researcher found that not only in this Industrial Estate, but in other parts of industrially developed areas of Maharashtra, the situation of disputes for bonus is nearabout the same.

Having made a survey of opinions of varying sections of persons and authorities all of whom have unanimously felt that the concerned estate has failed to achieve the objectives, it would be in the fitness of things that a brief analysis of causes of failure and some suggestion for improvement are given here. The causes of failure have been suitably classified.

9.4 General Opinions on the Approaches of Dhatav-Roha Industrial Estate

9.4 A. Unsold Approach

M.I.D.C. might have believed that only establishment of

industrial estate would create industries and bring about its decentralisation. They have not paid proper attention to its decentralisation. They have not paid due attention to a preliminary investigation of suitability of location of industrial estate. Unfortunately very little attention has been paid to the cost and input of the locations of this industrial estate and location has been decided without keeping in view the economic factors. Lack of proper attention to the availability of raw materials, market, skill and transportation and other facilities has resulted in scarcity of one or the other of the above factors leading either to closure of units or underutilisation of their capacities. In the case of rural estates like Dhatav Industrial Estate, it is particularly necessary that they should depend almost entirely on local materials, skills, markets. Failure to follow this necessary pre-condition is the principal reason for the large proportion of either sick industries or low performance of industries. The decision to have at least one industrial estate in each district may not be questionable but if this decision lacks flexibility and estates are established in every suitable and unsuitable place, at least some of them are likely to become monuments of waste. This is what has happened in the case of Dhatav Industrial Estate.

9.4 B. Absence of Infrastructure

One of the basic ideas behind the scheme of Industrial

Estates is that a provision of infrastructure for growth of industries would attract new entrepreneurs and industries. But in practice, very little attention has been paid to the creation of necessary economic and social overheads. Water and electricity seem to be only the facilities made available to the units in the estates. Roads are in bad shape and sanitation is neglected. This estate has provided the bank and a branch of Post office, but no provision of industrial training. The matter of housing accommodation for workers in this industrial estate has not received any attention by the authority. Common service facilities which should form an integral part of the scheme of industrial estate, are provided a very little attention. And though it is provided, their suitability and adequacy have not been properly looked into. Dr. P.C. Alexander has rightly remarked: "A mere collection of factories cannot set in motion the process of industrialisation, if the programme is properly coordinated and integrated with other programmes of development, the utility of estates will be considerably enhanced, but in actual practice there has been a very little coordination between different development agencies in planning industrial estates and this has reduced the usefulness of the scheme."¹

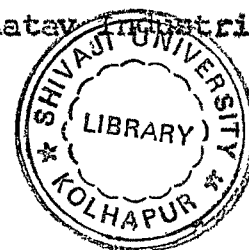
9.4 C. Uneconomic Land Development and Construction

The Industrial Estate is supposed to provide land, buildings and other facilities to industrial units at economically cheap rates.

Unfortunately, in India, the cost of development of land and construction of buildings by Government Agencies has been comparatively high. This has resulted not only in high rents for the sheds but also in delays in completion of estimates and curtailment of the size and number of buildings. The United Nations report on the physical planning of Industrial Estates remarked: "In India a number of recent studies have noted wide variations in major components in land uses. As a consequence, norms are now being sought which will make for more effective space utilisation as well as economy in development costs".² The building should be more functional than architectural. Requirements of potential occupants should be kept in view in preparing designs of factory buildings and determining the sizes.

9.4 D. Absence of Common Service Facilities

Common service facilities have to be an integral part of an estate. The common services should include a workshop providing common technical services such as heat-treatment, forging, electroplating, effluent treatment plant etc. A testing laboratory and common commercial services including joint purchases, sale and advertisement should also be provided. These common services afford small industrial units in opportunity to reduce their cost and thus help them to be in a better co-operative position in relation to large industries. It is surprising that sufficient attention has not been paid to this aspect of the Dhatav Industrial



Estate. One of the principal reasons for the absence of common facilities is the composition of the units in the estates which require services which are not common. Hence there is the necessity of controlling admission to the estates so that common facilities may be developed and utilised.

9.4 E. Unsound Admission Policies

Unsound policies regarding admission of the units to the estate have come in the way of the development of the common facilities. If small industries are to be developed on sound lines, with the object of making them stand independently in the face of competition from large industries, it is absolutely essential that all possible efforts should be made to provide them with the economies of large scale production without depriving them of their independence as small units. To achieve this objective, the group of industries should be such that they have common requirements of services which can be economically provided by a common facility centre. Interdependent industries - one utilising the product of the other - units utilising different parts of the same finished product produced on the estate or units providing services required by other units - enable the small units to minimise their cost and the whole estate works as a homogeneous unit. The study in general of this Industrial Estate shows that no such consideration has been kept in mind while allotting plots to factories. The result is that the units have nothing in common

and hence no sense of common interest and cooperation exists amongst industries in this estate. Most of the units have complained about non-availability of raw materials which have either to be acquired from other places or have to be imported. This again is an example of unsound admission policy. In many cases, the raw material, the workers and the industrialists themselves have been brought from outside and the finished product having no local demand is also marketed elsewhere. This defeats the very purpose of the industrial estate which should utilise the local resources and should sell in the local markets.

9.4 F. Absence of Suitable Entrepreneurs

Industrial Estates are expected to develop the latent local entrepreneurial skill so that a new class of industrialists is brought into existence. However, our study reveals that in this estate most of the entrepreneurs have come outside. Many of them have come from the industrially developed cities like Bombay, Pune and from the Gujarath State. Most of their earnings are sent out of this District for supporting their families and financing their business interests in their own cities and districts. Hence the industrial estate which is supposed to set in motion an automatic process of industrial progress of thorough reinvestment of earnings have failed to achieve this objective. The objective of regional balance is also defeated.

9.4 G. Underutilisation of Capacity

It has been noticed that many units are working below their installed production capacity. The researcher's observations about idle capacity in the industrial estate are confirmed in Dr. Ram K. Vepa's study of industrial estates in India. He observes: "... that idle capacity in the case of some of the industrial estates was as high as 60 per cent, while average underutilisation is of the order of 40 per cent". Dr. N. Somasekhara has estimated the idle capacity in the industrial estates in India to be about 50 per cent. Investigating the causes for underutilisation of capacity the researcher found that the lack of demand was the principal cause of under-utilisation. Lack of raw material was the second major cause. Other causes are lack of finance, lack of power and labour problems. The study of the causes again brings to light the defective planning of the estate and selection of the units. Industries based on local raw materials should be admitted in the estate. Failure to follow this principle has resulted in a large capacity remaining underutilised.

9.4 H. Absence of Co-operative Units

The researcher found that units run by cooperative societies are practically non-existent. Industrial Estates are supposed to provide opportunities for starting industries to persons with smaller means. Skilled workers and technicians could avail themselves of this opportunity by forming cooperative societies

for establishing industrial units. It seems that people belonging to these categories have not taken advantage of the situation. It also shows that the Registrars of Cooperative Societies have failed to pay proper attention to the establishment of industrial cooperatives.

9.4 I. Lack of Housing Facilities to Workers

With the expansion of employment opportunities on the industrial estate, the number of industrial workers is bound to increase, and attention has to be paid to the provision of housing accommodation for them. Absence of housing would result in the growth of industrial slums. The researcher found that no attention has been paid to a coordinated scheme of housing for workers. The evil effects of overcrowding and living in slums are quite well known, and hence need for housing facilities can hardly be overemphasised.

9.4 J. Lack of Co-ordinated Actions of Institutional Agencies

An industrial estate is not only a group of factories, it is conceived as the nucleus of growing industrial activity. Such activity depends on a coordinated effort of many institutional and Government departments. A scheme prepared by the Industries Department in isolation is bound to face a number of difficulties. Coordination is required between the Industries Department, the Electricity Board (MSEB), Water supplying agency i.e., M.I.D.C., Local Government, financial institutions, the Department of

Agriculture, the Department of Cooperation, the Housing Board etc. Association of all these institutions and departments with the preparation and implementation of the scheme of industrial estate is essential. Absence of such coordination is quite conspicuous and absence of facilities, atmosphere, and delays, dead communication, bad network of roads, etc, are caused due to lack of coordination.

From the above evaluation it can be concluded that before establishing an Industrial Estate, the following criteria is required to be satisfied:

- 1) That should be based on local demands,
- 2). That should be based on local raw material,
- 3) Skilled labour for the industries should be available,
- 4) Encouragement should be given to local entrepreneurs,
- 5) Dependent industries are to be allowed first with preference for admission,
- 6) Industry should be labour intensive,
- 7) There should be good coordination of all concerned Institutional agencies and departments,
- 8) Full attention must be given to infrastructural development,
- 9) An approach to estate as "Land selling business of government must be changed,
- 10) Managers should take the care of utilising their plants fully.

NOTES AND REFERENCES

- 1 Dr. P.C. Alexander - Industrial Estates in India, Asia Publishing House,
- 2 U.N. The Physical Planning of Industrial Estates, p. 28.
- 3 Dr. Ram K. Vepa, Small Industries in Japan, Vora & Co.