

Working of Industrial Estates in North Goa: An Analytical Study

Prof B. Ramesh*
Dr I. Bhanu Murthy**
Mrs Shami Pai***

ABSTRACT

Industrial development has an important contribution to the economic progress of underdeveloped economy of India. The technique of industrial estates occupies a vital place in promoting and guiding industrialisation both in industrially advanced countries as well as developing countries. The concept of Industrial Estate is a recent addition to the list of industrial techniques that have been applied successfully to the basic problem of initiating and sustaining the development of small and medium scale industries. Before the liberalisation, Goa's economy was mainly based on agriculture and to a large extent on the mining industry. Industrial activity in Goa was basically an offshoot of mining industry. However, after Goa's liberalisation due to various steps taken by the Government, the industrial scenario has undergone a vast change. This paper is an attempt to study the working of industrial estates in North Goa district of Goa on the basis of the perception of the entrepreneurs whose units are located in the industrial estates in North Goa.

Keywords: Industrial Development, Industrial Estate, Industrialisation.

INTRODUCTION

Industrial development has an important contribution to the economic progress of underdeveloped economy of India. It brings about significant structural change in the national economy. India is a developing country. Industrialisation has a major role to play in the economic development of India. A rapid pace of industrialisation is urgently called for to achieving the basic objectives of economic and social progress. This is because, rapid industrialisation is the only solution to the problem of raising the living standard of the people'. To quote the United Nations: Industrialisation is a process of growth and as such is organically linked both to the social and economic past and to parallel processes of social and economic development. Prof. Gunnar Myrdal has rightly pointed out the impact of industrialisation on the economic development in the following words: The manufacturing industry represents, in a sense, a high stage of production in advanced countries; the development of manufacturing industry has been concomitant with these countries, spectacular economic progress and rise in the level of living. Not least in the underdeveloped countries, the productivity in industry tends to be considerably greater than in the traditional agricultural pursuits.

The technique of industrial estates occupies a vital place in promoting and guiding industrialisation both in industrially advanced countries as well as developing countries. The concept of Industrial Estate is a recent addition to the list of industrial techniques that have been applied successfully to the basic problem of initiating and sustaining the development of small and medium scale industries

INDUSTRIAL ESTATE- THE CONCEPT

The industrial estate is, historically, a British concept and this term is used in most of the countries. India preferred to use the British concept in planning the built-up form of industrial infrastructure, inclusive of industrial sites and buildings. Moreover, "Industrial estates is peculiarly a British development as the very first estate in the world was established at Trafford Park, Manchester, in the year 18962. Initial efforts in the field of industrial estates were made for the purpose of assembling, improving and sub-dividing tracts of land and frequently for erecting factory buildings a according to a comprehensive plan, in advance of or upon demand either for sale or lease to prospective industrial occupants.

* Professor, Department of Commerce, Goa University, Goa, India

** Former Principal, VVM'S Shree Damodar College of Commerce and Economics, Margao Goa, India

*** Associate Professor, Department of Commerce, VVM'S Shree Damodar College of Commerce and Economics, Margao Goa, India

The earliest definition of industrial estate was given by William Bredo. According to him: an industrial estate is a track of land developed and sub-divided into plots according to a comprehensive plan with provision for roads, transport and public utilities with or without built-up factories sometimes with common facilities and sometimes without it for the use of a community of industrialists.

According to the United Nations, "industrial estate is defined as, a planned clustering of industrial enterprises, offering developed sites, pre-built factory accommodation and provision of services and facilities to the occupant. The term Industrial Estate has come to be used for a group of factories constructed on an economic scale in suitable sites with facilities of water, transport. Electricity, steam, bank, post-office, canteen, watch arid ward and first aid and provided with special arrangement for technical guidance and common service facilities. The estate combines in itself some of the important schemes of assistance to small industries and provides a tool for integrated development".

Industrial Estates can thus be defined as group of factories that are developed on a tract of land with facilities and amenities required for their development and promotion such as transport, communication, water, power, electricity, complementary services etc., aiming at the development of small scale sector and backward areas of the country and thereby contributing to the economic development. In general, the industrial estate has been a multi-purpose tool and an omnibus technique taking care of a number of problems - provision of suitable factory premises, utilities, facilities and services, economy in the investment on social overheads and the increased scope for inter-servicing and inter-trading development of complementarily in production and creation of the spirit of co-operation, decentralisation of industry for the development of backward areas, rural industrialisation, achieving a specific locational pattern, town planning and removal of slums.

Industrial estates are a powerful tool for developing small and medium sized industries which are planned rationally with the aim of decentralisation. This scheme provides a method by which the Governments can regulate the industrial location on geographical basis and foster the growth of small scale industries in accordance with the objectives of broad regional development plans.

The term 'Industrial Estate' covers the three variants of the concept, namely, industrial areas, industrial estates and industrial townships.

An Industrial Area is one wherein the infrastructural facilities and services are provided but factory accommodation is constructed by the entrepreneurs. In an industrial estate, both infrastructural facilities and factory accommodation are provided by the sponsoring authority. In an industrial township, besides the infrastructural facilities and factory sheds, housing accommodation and other civic amenities associated with a town are also provided.

The principal objective of the programme of industrial estates is to provide factory accommodations to small scale industries at suitable sites with facilities of water, electricity, steam, transport, banks, post offices, canteens, watch and ward, first aid, etc. and thus create a healthy atmosphere for the development of industries. The industrial estates bring a number of industrial units together and facilitate establishment of common facility centers, introduction of modern techniques, and collective purchase of raw materials and sale of finished goods, besides fostering a co-operative spirit of interdependence between them.

A massive programme for the development of small scale industries in India known as 'Industrial Estates Programme' was launched by the Government of India in 1955, This technique of industrialisation was recommended by the Small Scale Industries Board in 1955.

The first industrial estate in India was set up at Rajkot (Gujarat) in September 1955 and the first shed allotted in December 1955.

Thus, the industrial estate is, historically a British concept and because this term is quite comprehensive, it is used in most of the countries. India has preferred to use the British concept in planning the built-up form of industrial infrastructure, inclusive of industrial sites and buildings.

INDUSTRIAL ESTATES IN GOA

One of the main steps taken by the Government was setting up Goa, Daman & Diu Industrial Development Corporation (GOA-IDC) in the Year 1966 with the objective of securing and assisting the setting up of industries in Goa. With the setting up of this Corporation, the industrial activities started picking up. The GOA-IDC is doing this job with a fair degree of success since the last 34 years. In fact, there has been manifold increase of its operations and is today, the 'Nodal Agency' as far as industrialisation of Goa is concerned in Goa

Before the liberalisation, Goa's economy was mainly based on agriculture and to a large extent on the mining industry. Industrial activity in Goa was basically an offshoot of mining industry. Iron ore mining in Goa was solely export oriented catering to the post world war industrial activities in countries like Japan and Western Europe. Development in mining industry in Goa gave rise in a small way to Industrial Activity in supporting areas of infrastructure, servicing and job works of mining equipments, vehicles etc. However, after Goa's liberalisation due to various steps taken by the Government, the industrial scenario has undergone a vast change.

One of the important activities of this agency has been to identify land for setting up Industrial Estates keeping in mind the concept of balanced industrial development in various parts of the State without disturbing the fragile ecology of Goa. The areas have to be within the industrial zones as per the regional plan prepared by the Town & Country Planning Department. The other aspects that are kept in mind while selecting the land are availability of transport, water, power supply, urban infrastructure, communication facilities and reasonable cost. After identifying the land, the site plan indicating the survey nos, plot nos. etc. is prepared. At the time of preparation of the layout, care is taken to see that ecological features and tourism development plans in the State are not disturbed. Goa has a tremendous tourism potential. Care is also taken to keep adequate land for open space and green area. Further some area is reserved for common industrial facilities as well. So far Goa Industrial Development Corporation has established 18 Industrial Estates in various talukas of Goa. The total units established in the estates are over 1600 generating an employment to around 30,000 people. The units ranging from tiny to large scale manufacture a diverse range of products from food processing to modern sophisticated computer peripherals, defence and telecommunication equipments GDDIDC (now renamed Goa IDC) has so far established twenty two Industrial Estates in Goa, Daman and Diu, viz Corlim, Margao, Sancoale, Daman, Mapusa, Tivim, Bichotim, Kakoda, Honda, Bethora, Canacona, Kundaim, Diu, Tuem, Verna, Cuncotim, Pilerne, Marcaim, Pissurtem, Colvale, Shiroda and Sanguem..

At present, GOA-IDC has a programme of expansion of Industrial Estates as well as establishment of new Industrial Estates to meet the demand of the industry to set up their projects in Goa. In order to cope up with the pace of industrialization in Goa, a Special Land Acquisition Cell has been set up to gear up the land acquisition proceedings.

Verna Electronic City which is attracting a large number of units in thrust areas like electronics, plastics and pharmaceuticals is emerging as a nucleus of the frenetic industrial activity taking place in the State followed by other prominent Industrial Estates. This progress has been possible due to the various planned steps taken by the Government of Goa and persistent efforts of its various institutions and agencies like the Directorate of Industries, the Economic Development Corporation of Goa, Daman & Diu Ltd., Goa Industrial Development Corporation and other agencies. Mention must also be made of the commendable efforts put in by institutions like MSFC, IDBI, NSIC, SIDBI, IFCI and SISI which have established their branch offices in Goa. Also various nationalised and co-operative banks have played their vital role in providing credit to entrepreneurs through the vast network of their branches spread all over Goa.

At present, GOA-IDC has a programme of expansion of Industrial Estates as well as establishment of new Industrial Estates to meet the demand of the industry to set up their projects in Goa. In order to cope up with the pace of industrialization in Goa, a Special Land Acquisition Cell has been set up to gear up the land acquisition proceedings.

The State of Goa envisages catalyzing economic growth through accelerated industrial development. The mission is to create sustainable employment opportunities mainly to the local people of Goa. It also includes environment friendly industrial development ensuring balanced growth of regions, a facilitative regime that explores and unleashes the energies of the private sector to create an environment in which existing and new industries can prosper.

The Industrial Policy, has been formulated by the Government with the view to achieve overall economic growth of the state through accelerated industrial development. The policy focuses on the creation of sustainable employment opportunities for the people of the state.

To increase clarity and transparency in allocation of plots in the industrial estates, the Government has notified the Goa Industrial Development Corporation Allotment Regulations 2012. Further, to take back plots allotted to units but are non-operational, the Goa IDC Transfer and Sub-Lease Regulations, 2013 were notified. The Government is confident that with these two notifications, the clarity and transparency in allocation of plots will improve and land in the industrial estates will be freed up.

LITERATURE REVIEW

- * Alexander P.C, in his book 'Industrial Estates in India' has analysed the problems and prospects of industrial estates in India. He found out that wrong decision on the locations of the industrial estates has resulted in the failures in many cases. He added that proper attention should be given to planning aspects of industrial estates.
- * Bharati K.K. stated that industrial estates occupy a prominent place in the industrial planning in India. He integrates important aspects of small scale industries in the Indian context. He found out that the establishment of industrial estates is an important measure of assistance by the government to small industries.
- * Sanghavi made an analytical study about the working of industrial estates in Gujarat. It is an evaluative study of the programme and throws light on a number of issues such as the size, location efficiency, capacity utilisation, industrialisation through the development of small scale industries and their impact on the industrial dispersal and regional development.
- * Kalyani Bandyopadhaya has analyzed the socio-economic factors of industrial estates. The study also involves the reasons for setting up of industrial estates in both the developed as well as developing countries. Further, the assessment of the potentialities of industrial estates as a means of industrialisation in a developing economy like that of India is also undertaken.
- * Chopra has undertaken the study of industrial estates in the state of Rajasthan. The study includes the comparative analysis of the performance of the units located in the industrial estate and the units located outside the industrial estate. The study also involves inter industrial estate comparison and inter-location and inter-industry comparison within the industrial estate.
- * United Nations Industrial Development Organisation (UNIDO) has given guidelines for the establishment of the industrial estates in the developing countries. This study has explained the concept of industrial estate, steps to be taken for the establishment and smooth running of the industrial estates, the conditions needed for the success of the programme and the role played by the industrial estates in the growth and development in the developing countries.
- * Prakash has conducted a study on the mini industrial estates of Kerala. The study has come out with the various drawbacks in the implementation of the programme in Kerala. These are faulty selection of industries, wrong location, poor quality of project reports, and lack of space for expansion and hasty implementation of the programme.
- * N. Somasekhara studied the production function of the industrial estates in Mysore. It involved the estimation of the cross sectional production functions of the Cobb-Douglas type, for the seven industrial estates in Mysore. The conclusion was that generally the marginal productivity of the capital was almost zero for the small enterprises in the industrial estates.
- * William Bredo in his study has explained the concept of industrial estate in detail and also given guidelines for using it as a tool for industrialisation process. The study also highlights the advantages as well as the limitations of the industrial estate programme
- * I. Bhanu Murthy has done a case study of Renigunta Industrial Estate, Andhra Pradesh. He studied the various problems faced by the units, root causes of the deficiencies and suggested various ways and means

to strengthen the infrastructure. The conclusion of the study is that the units face various problems such as technical, managerial, administrative, and marketing. Hence Andhra Pradesh Industrial Infrastructure Corporation should play an active role in solving these problems.

RESEARCH OBJECTIVES

- * To seek the perception of the entrepreneurs whose units are located in the industrial estates in North Goa regarding the facilities, infrastructure, incentives, benefits and challenges
- * To compare the industrial estates in North Goa on the basis of the perceptions of the entrepreneurs.
- * To offer suggestions to the Government for better working of the industrial estates in North Goa.

Hypothesis

H1: There is no significant difference in the perceptions of the entrepreneurs regarding the facilities, infrastructure, incentives, benefits and challenges in the industrial estates in North Goa.

RESEARCH METHODOLOGY

The paper is based on both secondary and primary data. Secondary data was collected from the books, journals, internet, etc. Primary data was collected with the help of a Questionnaire administered to the sample units in each industrial estate of North Goa. Simple Random Sampling Method was used to select the sample units from each industrial estate of North Goa. There are 12 functioning industrial estates in North Goa. 01 industrial estate is not functioning i.e. there are no functioning units in this industrial estates. Total entrepreneurs interviewed were 85. The tests used for analysing the data are t test and ANOVA. Statistical Package used is SPSS 20.

INDUSTRIAL ESTATES IN NORTH GOA

The state of Goa is divided into two districts: South Goa and North Goa. There are 18 functioning industrial estates in Goa. Out of these 18 industrial estates, 06 are located in the South Goa district and 12 are located in the North Goa district. The functioning industrial estates from North Goa are Bethora, Madkaim, Kundaim, Corlim, Mapusa, Tivim, Pissurlem, Honda, Bicholim, Tuem, Colvale and Pilerne. Shiroda industrial estate does not have any functioning unit.

Comparison of industrial estates in North Goa is made on the basis of following variables:

- * Ratings of the facilities in industrial estates
- * Perceptions on infrastructure provided
- * Perceptions on incentives provided
- * Perceptions on benefits gained
- * Perceptions on challenges faced

The findings are based on the responses given by the sample entrepreneurs from the industrial estates located in the North Goa district of Goa state.

The entrepreneurs were asked to rate the facilities of the industrial estate in which their unit is operating. The following table shows the responses given by the entrepreneurs:

Rate the facilities of the industrial estate in which you are operating (E-Excellent G-Good N-Neutral B-Bad W-Worse) 5- Excellent, 4 - Good, 3- Neutral, 2-Bad, 1- Worse

Table-1: Responses of ratings North Goa

Sr. No	Questions	1	2	3	4	5	Total
1	Locality	0.00	4.76	13.10	47.62	34.52	100
2	Infrastructure	1.19	20.24	22.62	55.95	0.00	100
3	Topography	1.19	8.33	16.67	67.86	5.95	100
4	Soil conditions	0.00	9.52	22.62	66.67	1.19	100
5	Utility	2.38	14.29	55.95	27.38	0.00	100
6	Incentives	1.19	9.52	64.29	25.00	0.00	100
7	Access to Highway	1.19	8.33	10.71	52.38	27.38	100
8	Feasibility for running business	1.19	10.71	21.43	63.10	3.57	100
9	Overall quality	0	16.67	17.86	65.48	0	100

Source: Primary Data

The above table indicates the data on the responses given by the sample entrepreneurs from the industrial estates located in North Goa district. The industrial estates were rated on the basis of locality, infrastructure, topography, soil conditions, utility, incentives, access to highway, feasibility for running business and overall quality. The scores given for ratings were excellent, good, neutral, bad and worse.

From the table it can be seen that,

- * 47% of the respondents agree that location of the industrial estates is good.
- * 56% of the respondents say that infrastructure is good.
- * 67% of the respondents say that topography is good.
- * 66% of the respondents agree that soil conditions are good.
- * 56% of the respondents say that utility is good.
- * 65% of the respondents are neutral on the incentives.
- * 52% of the respondents say that access to highway is good.
- * 63% of the respondents say that feasibility for running the business is good.
- * 65% of the respondents say that the overall quality of the industrial estates is good.

Thus, majority of the respondents have given 'good' option for all the nine parameters of ratings of the industrial estates in North Goa. However, not a single respondent has given 'excellent' option for infrastructure, utility, incentives, and overall quality. Similarly, not a single respondent has given 'bad' option for locality, soil conditions, and overall quality.

Table-2: North Goa industrial estates a comparative study

Perceptions	IE	N	Mean	Std. Deviation	F statistics	p value
Ratings Industrial Estate	Bethora	8	3.6944	0.3551	1.923**	.050 P<0.10
	Madkaim	5	3.3556	0.4869		
	Kundaim	23	3.3720	0.4931		
	Corlim	8	3.7222	0.3028		
	Mapusa	3	3.8148	0.1283		
	Tivim	8	3.9028	0.2480		
	Pissurlem	2	3.5000	0.3928		
	Honda	3	3.2222	0.3333		
	Bicholim	9	3.6296	0.4194		
	Tuem	3	3.3704	0.0642		
	Colvale	3	4.0370	0.0642		
	Pilerne	9	3.3951	0.6434		
Perceptions on Infrastructure provided	Bethora	8	3.3250	0.5849	3.576***	.000 P<0.05
	Madkaim	5	2.9600	0.4336		
	Kundaim	23	3.1565	0.6687		
	Corlim	8	2.4500	0.5732		
	Mapusa	3	3.7333	0.1155		
	Tivim	8	3.2250	0.3615		
	Pissurlem	2	2.5000	0.1414		
	Honda	3	3.1333	0.6110		
	Bicholim	9	2.6889	0.4137		
	Tuem	3	2.3333	0.3055		
	Colvale	3	2.9333	0.4163		
	Pilerne	9	2.5111	0.2261		
Perception on incentives provided	Bethora	8	3.1125	0.7827	1.800*	.070 P<0.10
	Madkaim	5	3.3200	0.4087		
	Kundaim	23	2.7261	0.4361		
	Corlim	8	3.2118	0.4646		
	Mapusa	3	3.0667	0.5033		
	Tivim	8	3.3250	0.4590		
	Pissurlem	2	3.0000	0.0000		
	Honda	3	2.5333	0.5033		
	Bicholim	9	3.0333	0.5431		
	Tuem	3	2.4667	0.5033		

	Colvale	3	3.4000	0.4000		
	Pilerne	9	2.7222	0.8599		
Perceptions on the benefits gained	Bethora	8	3.3750	0.5862	0.748	.689 p>0.01
	Madkaim	5	3.1714	0.4333		
	Kundaim	23	3.0435	0.4317		
	Corlim	8	2.9821	0.5369		
	Mapusa	3	3.4762	0.2182		
	Tivim	8	3.2857	0.6109		
	Pissurlem	2	3.3095	0.0337		
	Honda	3	3.0952	0.4124		
	Bicholim	9	3.0952	0.2020		
	Tuem	3	3.2381	0.2182		

*** Significant at 1 %, ** significant at 5%, significant at 10%

Source: Primary Data

RESULTS AND DISCUSSIONS

From the above table, following results can be drawn:

- " Ratings of Industrial Estate: since (p < 0.10) Significant difference is found at 10%. ratings for Honda (3.22) industrial (IE) estate is lowest among all Industrial Estates, Colvale has got highest ratings score (4.03). This is because Colvale Industrial Estate is close to highway, overall quality of infrastructure is good, power failure is less. Ratings of Honda industrial estate is minimum because this industrial estate is facing a lot of problems. It is located in the backward taluka of Sattari. The infrastructure is not upto the mark. It lacks all the modern amenities. Feasibility for running the business is low.
- " Perceptions on Infrastructure provided since (p < .05) perceptions related to infrastructure are differing significantly at 5%. Mapusa IEs perceptions are highest among all IEs. Mapusa IE has got good infrastructure this fact is reflecting through its ratings score (3.73). Mapusa industrial estate is centrally located, power fluctuations is less, water shortage is less. However, score of Corlim industrial estate is the minimum. In spite of being the oldest industrial estate, this industrial estate faces lot of issues. The major issues are the conflict with the locals, garbage problem, power problem, water problem. This industrial estate is neglected.
- " Perceptions on incentives provided: since p < .10 perceptions are differing marginally (at 10%). Tivim industrial estate has highest score and Madkaim industrial estate has lowest score. This is because majority of the entrepreneurs in this industrial estate are not happy with the incentives offered by the government. They have also not availed the same.
- " Perceptions on the Benefits gained: since p > .01 perceptions are not differing significantly. All industrial estates have similar scores. This shows that all the sample units have similar perception on the profits gained by them being a part of industrial estate. All the units enjoy similar benefits in the industrial estates.
- " Perceptions on the Challenges faced: since p > .01 perceptions are not differing significantly. No significant difference is noticed in the scores. Hence it shows that all the sample units face similar challenges in the industrial estates.

Thus, hypothesis, H1 is partly accepted and partly rejected. It is accepted for benefits gained and the challenges faced because p > .01, where as it is rejected for the Facilities, Infrastructure, and Incentives, p < .010, here alternate hypothesis is accepted.

There is no significant difference in the perceptions of the entrepreneurs on the benefits and challenges, where as there is significant difference in the perceptions of the entrepreneurs on the facilities, infrastructure and incentives.

FINDINGS OF THE STUDY

North Goa district of Goa state consists of 12 industrial estates. Each industrial estate has been rated differently for different factors. This is because each industrial estate is different. Each industrial estate has its own merits and demerits.

Maximum units are located in Kundaim industrial estate where as minimum units are located in Pissurlem industrial estate .This means that Kundaim is the most preferred industrial estate in North Goa.

As far as Ratings of the facilities are concerned, Tivim industrial estate got the highest rank and Honda Industrial estate got the lowest rank.

As far as the infrastructure is concerned, Mapusa industrial estate is leading where as Corlim industrial estate is having the minimum score.

As far as incentives are concerned, Tivim industrial estate is having highest score where as Madkaim industrial estate has lowest score .This may be because maximum entrepreneurs from Tivim industrial estate have availed the incentives. In Madkaim industrial estate very few entrepreneurs have availed the incentives.

As far as profits gained and issues are concerned, all the industrial estates have similar scores. This is because all get similar profits/ gains in the industrial estates. They face similar issues/challenges, being a part of the industrial estate.

CONCLUSION

To conclude, we can say that North Goa district of Goa state has 12 industrial estates, but all are not equally successful as far as total functioning units are concerned. Only few industrial estates are having demand such as Kundaim, Pilerne, Bicholim, Tivim and Corlim. Maximum units are located in Kundaim industrial estate and minimum are located in Pissurlem industrial estate.

Again, there are lot of problems faced by the entrepreneurs in the industrial estates such as lack of quality power, water shortage, lack of proper maintenance of industrial estate, lack of facilities like fire station, hospital, police outpost, banks, etc. Each industrial estate has Field Manager, but their powers are limited. They also have budgetary constraints.

North Goa district with 1736 sq kms is having 12 industrial estates thereby increasing the burden on the transportation and logistics.

SUGGESTIONS

- * Infrastructure in the industrial estates is very old and needs upgradation.
- * Single Window System is a must to clear all the procedures.
- * Quality power is the need of the hour.
- * Industrial estates should have a dedicated power station.
- * All the industrial estates should have a compound wall and fencing for the safety.
- * Each industrial estate must have two entrances.
- * Entrance of the industrial estate must be attractive with the details of the industries located in the industrial estate.
- * Industrial estates located in the backward talukas need more attention by the authorities.
- * Industrial estates must be well equipped with the required facilities and amenities like doctor on duty, ambulance, fire station, police outpost, bus stop, pay toilets, rest rooms, etc.
- * There should be transparency in the procedures of the government.
- * Government should co-operate with the entrepreneurs in each industrial estate.
- " Periodic inspection of industrial estate is a must. Regular maintenance to be taken up like streetlights repair, roads conditions, etc.
- " Field Managers have limited powers. They should be given more decision making powers.
- " Check Post at the main entrance to check out the entry of unauthorized people and vehicles.

- " Government should have frequent interactions/ meetings with the entrepreneurs.
- " Encourage more large industries so that ancillary units can be also encouraged.
- " Open spaces in each industrial estate can be developed by the authorities and converted into parks, clubs, etc.
- " Some ready sheds can be built by the government for the benefit of small units.
- " Days where Field Manager is not available in the industrial estate should be told to the entrepreneurs
- " Rain Water Harvesting can be done in each industrial estate.
- " Government should co-ordinate with Industrial Estate Association office bearers and have regular meetings to discuss the problems.
- " The authorities should have proper co-ordination with Electricity Dept, Panchayat, Fire, Police, PWD, Town & Country Planning, etc.
- " Broadband Connectivity needs to be improved in each industrial estate as the speed is very slow.
- " Some ready sheds can be built for the benefit of small units.
- " Water rates/electricity rates should be different for different units (e.g. small, large, micro, etc).
- " Construction rules need to be reviewed, i.e. FAR should be increased and temporary roofs in setback areas should be permitted.
- " Government should look into the revival of sick units in each industrial estate.
- " Government should motivate local people from the taluka to start small scale units in each industrial estate.

REFERENCES

1. Agarwal Deepak, (1987), Prospects of industrial estates in underdeveloped countries, Chugh Publications, New Delhi.
2. Ammakutty,(1980) Problems and prospects of mini industrial estates, Social Scientist, Vol8, No 9.
3. Angle P.S. (2001), Goa- An Economic Update, The Goa Hindu Association, Mumbai.
4. Bredo William(1960), Industrial Estates Tool for Industrialisation, The Free Press, Glencoe Illinois
5. Bharati , K.K.(1978), Industrial Estates in developing economies, National Publishing House, New Delhi
6. Bandopadhyaya Kalyani(1969), Industrialisation through industrial estates: a pattern of economic decentralisation, Bookland Pvt Ltd, Calcutta
7. Bhanu Murthy I.,(1985), Infrastructure for industrial development- A Case study of industrial estate, Renigunta, Mphil dissertation,Sri Venkateswara University, Tirupati.
8. D.S.Leelavathi,, (1994), Role of Industrial Estates in developing small scale industries in Karnataka, Southern Economist, Vol 33.
9. N. Somasekhara,(1964) The Effectiveness of industrial estates- An Analysis of industrial estates- An Analysis of Industrial Estates in Mysore, Pune University.
10. P.C.Alexander,(1963), Industrial Estates in India, Asia Publishing House, Mumbai
11. Palaspure P. Z, Industrial Development in Vidarbha, Popular Prakashan,
12. Prakash B.A.(1980) , Mini Industrial Estates Programme in Kerala- A case study of Trichur District, Indian Management,.
13. R.K. Bharti(1978), Industrial Estates in developing economics, National Publishing House, Delhi, 1978
14. Sanghavi R.L.(1979), Role of industrial estates in developing economy, Multi-tech Publishing Company, Bombay
15. Srinivasan,(1970), Industrial Estates in India, Vora and Co. Publishers Pvt.Ltd,1970
16. Subbi Reddy T. (1981), Industrial Estate Management, Maruthi Book Depot, Guntur, Andhra Pradesh.
17. Sivayya K.V. and V.B.M. Das, (1983), Indian Industrial Economy, S. Chand and Company, New Delhi.
18. United Nations(1961), Establishment of Industrial Estates in under developed countries, Feb Sales No 6.11 B4
19. www.gidc.com- Goa- IDC-Citizen Charter 2006-07