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EVALUATION REPORT ON INDUSTRIAL ESTATES NO. 13
INDIA 1/

by

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PREFACE

This paper was prepared on the basis of research carried out in India between February and April in 1976 for an ODI study of official assistance to the small-scale sector in India. Since the ODI study was very much broader in scope than the industrial estates programme and this particular paper was not then envisaged, its material and findings are not strictly comparable with those surveys specifically commissioned for the expert group meeting in Vienna. It is hoped however that this paper will be relevant to the deliberations of the group and will draw attention to some of the lessons to be learned from the Indian programme.

Special reference will be made in this paper to a cross-section of states studied in detail by ODI and in particular to industrial estates in two of these states, Andhra Pradesh and Tamil Nadu. Illustrations will be drawn from other parts of India where appropriate but this paper does not purport to deal with the industrial estates programme throughout the entire country.

INTRODUCTION

The industrial estate programme in India is a long established one, and one of considerable size and significance. At the end of the Fourth Plan in March 1974, 520 industrial estates had been established while a further 92 were under construction or at the planning stage. According to official statistics some 19,139 small-scale units[1] were then reported as being in production in these estates, employing 176,000 people and with an output of approximately Rs 3,500 million per annum.

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1 Small-scale industries - these are defined by the Government of India as those industrial units with a capital investment in plant and machinery of not more than Rs 1 million, irrespective of the number of persons employed. For those units producing parts, components, subassemblies and/or tooling for one or two large units which manufacture or assemble end products otherwise known as ancillary units the capital ceiling is Rs 1.5 million. These capital ceilings were initially introduced in 1960 at Rs 0.5 million and were raised to Rs 0.75 million and Rs 1 million respectively in 1966 and again to the current levels in 1975.

The industrial estate programme is regarded by the Government of India as a success, although it is admitted that progress has not been uniform. Average occupancy rates of 88 per cent in urban estates, 76 per cent in semi-urban estates, and 65 per cent in rural estates are an indication of this. The Government of India's commitment to the concept of industrial estates as a means of achieving rapid industrial growth began with the launching of a programme towards the end of the First Plan in 1955/56. During the Second and Third Plan periods up to 1966 the estates programme was regarded as a key one. After a period of consolidation in the Fourth Plan, while essential facilities had been provided in existing estates, the draft Fifth Plan left the task of financing industrial areas and estates in the vicinity of large cities and towns mainly to the major financial institutions and concentrated on the provision of industrial estates in selected 'growth' centres in semi-urban, rural or backward areas. Nevertheless the basic commitment to the concept remained and the allocation reached almost Rs 250 million for the five year period to 1979 - an increase of 59 per cent over the previous plan expenditure.

In order to see the industrial estate programme in India in its proper context reference must be made to the Government's policy of encouraging and assisting the establishment and growth of small-scale industries and to the role of industrial estates as instruments of that policy.

SECTION ONE - INDIAN INDUSTRIAL POLICY

Since independence four major motives have consistently lain behind the Government of India's industrial policy. There has been a strong desire to assert India's economic independence expressed as a need for self-reliance; there has been a serious imbalance in the economy between primary and other sectors; there has been a predominating concern to tackle the problems of unemployment and underemployment; and there has been a desire to avoid the concentration of economic power and to facilitate a greater diffusion of prosperity. The Government's commitment to a balanced and coordinated development of industrial and agricultural economies in each region and in the country as a whole was enshrined in the Industrial Policy Resolution of

1956. While a large proportion of public investment subsequently went to establish major public sector undertakings, controls were imposed on the output and growth of the large scale private sector and the small-scale sector became a priority sector.

It was against this background that a whole series of measures designed to stimulate and facilitate the establishment and growth of small-scale enterprise were taken. These measures have been expanded and reinforced over the twenty years to date, and the outcome has been a small-scale manufacturing sector which now has a significant role in the economy as a whole. The number of registered small-scale units now exceeds half a million with an annual gross output estimated at in excess of Rs 57,000 million.

The Census of Small-Scale Industrial Units in 1973/74 revealed that in 1972 (see Table 1) production of the small-scale sector in 16 major industry groups amounted to over 35 per cent of total industrial output from the registered sector and that there were approximately 160,000 working small-scale units in the country. Data was available for 140,000 of these units, 88 per cent of which had been established since the beginning of the First Plan in 1951. 5 per cent of these units were located in industrial estates. With fixed assets of Rs 10,550 million, the census units employed 1.65 million people (just less than 1 per cent of the total labour force). Capacity utilisation in the sector as a whole was 53 per cent. Table 2 provides details of the economic indicators of the small-scale units covered by the census; and Table 3 shows the distribution of units in a cross-section of states.

Over the whole series of five year plans since 1951 the Government of India has introduced a large variety of measures and has established a large number of agencies designed to assist the development of the small-scale sector. While these are too many and too complicated to be described other than in outline (Table 4), a number of differing objectives have characterised the Government's approach. Firstly a distinction has been drawn between modern small-scale units, which tend to be factory-based units utilising electricity as a power source and employing new, often imported, technologies, and traditional cottage and village industries, such as handicrafts or handlooms. There has been a continuing emphasis on the creation of new enterprises, and

TABLE 1

No of units, employment, investment in fixed assets and gross output by broad industry groups.

Industry Group	No of units	Employment		Investment in fixed assets (Rs '000)		Gross output (Rs '000)	
		Total	per unit	Total	per unit	Total	per unit
Food products	6577	131220	20	571488	87	1522876	232
Beverages	469	4577	10	42783	91	73944	158
Hosiery & readymade garments	6718	75346	11	361094	54	1554320	231
Wood products	12188	94703	8	423909	35	1026149	84
Paper products printing	8332	89146	11	870360	104	1264082	152
Leather & Leather products	5040	31775	6	113973	23	885544	176
Rubber & plastic products	7688	81690	11	804701	105	1511662	197
Chemicals	11837	159013	13	1009214	85	3466506	293
Glass & ceramics	7799	202269	26	628657	81	1255173	161
Basic Metal industries	5073	109626	22	852346	168	2941462	580
Metal products	34011	300060	9	1876887	55	4691103	138
Machinery & parts	12701	145333	11	1252964	99	2109912	166
Electrical & Electronic products	4409	65908	15	539773	122	1517168	344
Transport Equipment	6049	83492	14	649542	107	1347902	223
Miscellaneous	3482	40025	5	268200	39	626689	32
Repairing, servicing & job work	7197	36995	11	280952	77	232893	76
TOTAL	139577	16543178	12	1056843	76	26027385	186

Source: Census of small-scale industrial units.

TABLE 2

Economic indicators of the performance of small-scale enterprises taken from the Census of Small-Scale Industrial Units 1973/74

	Original value	Book value
Output per unit of investment in fixed assets	2.47	3.28
Value added per unit of investment in fixed assets	0.8	1.06
Employment per Rs 1 lakh of investment in fixed assets	16	21
Value added per worker	Rs 6204	
Percentage of workers to total employees	82%	
Percentage of worker's wages to total emoluments	77%	

Source: Census of Small-Scale Industrial Units 1973/74.

TABLE 3

Employment, investment and gross output, distribution of units in a cross-section of states.

	No of units	No employed	Investment in fixed assets (Rs lakhs)	Gross output (Rs lakhs)
Andhra Pradesh	8,091	78,673	4,587	8,591
Gujarat	9,904	114,500	9,604	20,862
Karnataka	5,614	64,385	4,379	7,977
Kerala	6,205	126,514	4,408	11,565
Maharashtra	15,358	239,770	22,666	52,947
Orissa	1,799	18,624	879	2,226
Punjab	13,675	123,544	8,154	24,337
Rajasthan	7,062	45,680	2,559	5,638
Tamil Nadu	16,002	215,182	11,115	32,178
All India	139,577	1,653,178	105,468	260,274

Source: Census of small scale industrial units 1973/74.

TABLE 4

List of official measures and programmes of assistance to the small-scale sector in India.

A. PROMOTION OF NEW ENTERPRISES		
1. Entrepreneurial development programmes:	Self employment programme	DIs
	Educated unemployed programme	DIs
	Half a million jobs programme	DIs
2. Ancillary development programme:	Higher capital ceilings	DIs
	Public sector schemes, Scrutinising of licences	
3. Rural industries project programme:	Loans to artisans, supply of improved tools, liberalised credit	SIDO/DIs
4. Backward area development programme:	Concessional refinance capital subsidies, selection of growth centres, industrial potential surveys	SIDO/DIs
5. Lead bank scheme		Nationalised banks
6. Intensive district campaigns		All agencies
B. PROVISION OF INPUTS		
1. Plant and machinery	Hire purchase facility	NSIC/SSIDCs
2. Raw materials	Quotas for scarce materials	
	Local supply depots for imports and strategic local materials	SSIDCs/DIs
	Canalising of imports	STC/MMTC
3. Finance	Grants	DIs
	Loans for fixed assets	SFCs
	Loans for working capital	Banks
	Guarantees for loans	NSIC/SSIDCs
	Credit guarantee scheme	RBI
	Refinance facility	IDBI
4. Industrial estates	Subsidised rents	DIS
	Hire purchase facility	SSIDCS/IICS
	Common service facilities	
C. TECHNICAL ASSISTANCE		
1. Industrial extension service	Common workshop facilities, Toolroom assistance, Technical advice, Training (labour & management), Design assistance	SISIs
2. Research and development	Prototype-cum training centres	NSIC
	Product & process development	NRDC/NRLS/CSIR
3. Modernisation programme	Covers 10 selected industries	SIDO/SISIs
4. Appropriate technology cell	Experimental projects	Ministry of Industry
D. MARKETING ASSISTANCE		
1. Government stores purchasing programme	Reservation of 222 items for procurement from SSI, price preferences, registration scheme	NSIC/DGS&D
2. Export promotion	Procedural assistance	SIDO/TDA/
	Marketing assistance	EPCs/DEP

3.	Import substitution	Import licensing	SIDO/CCIAE
4.	Quality marking schemes	ISI standards, test laboratories	
5.	Subcontract exchanges		SISIs
6.	Reservation of products/product groups for SSI development	177 products in all	SIDO
7.	Economic services	Industrial potential surveys Feasibility studies Market surveys	SIDO/SISIs
E.	**CREATION OF A FAVOURABLE BUSINESS ENVIRONMENT**		
1.	Exemptions from regulation of industry	Building standards Labour laws Licensing of capacity	
2.	Registration of SSI		SIDO/DIs
3.	Designation of priority industries	Priority for loans, administrative procedures formalities, imports, tax rebates	SIDO
4.	Fiscal concessions	Tax holidays Refund of sales tax (raw materials and capital equipment) Exemption from octroi Development rebate Depreciation allowances Tax credits Rebate on exports Relief on duties & rates for water, electricity.	

Key to agencies involved:

SIDO	Small Industry Development Organisation Development Commissioner (Small-Scale Industries)
DIs	State Directorates/Departments of Industries
NSIC	National Small Industries Corporation
SSIDCs	State Small-Scale Industrial Development Corporations
STC	State Trading Corporation
MMTC	Minerals and Metals Trading Corporation of India
SFCs	State Finance Corporations
RBI	Reserve Bank of India
IDBI	Industrial Development Bank of India
IICs	State Industrial Infrastructure Corporations
SISIs	Small Industry Service Institutes
NRLs	National Research Laboratories
DGSAD	Directorate General Supplies and Disposals
TDA	Trade Development Authority
CCIAE	Chief Controller Imports and Exports
EPC	Export Promotion Council
DEP	Directorate for Export Promotion.

some protectio from competition from imports and larger scale manufactures. A number of attempts have been made to solve the employment programme through special schemes for self employment, for technically qualified entrepreneurs, and for the unemployed especially those who are educated. There has too been a continuing concern to achieve a redistribution of industrial growth, away from the major metropolitan centres towards the rural areas and in the more 'backward' districts.

The pattern of expenditure over the series of five year plans is detailed in Table 5. During the Second and Third Plans the early emphasis in the assistance provided for small enterprises was on providing suitable accommodation and common services by means of constructing industrial estates (20 per cent of expenditure on small-scale industries went on the estates programme) providing an industrial extension service through the Small Industry Service Institutes. Later during the Fourth Plan a high priority was given to improving the availability of credit which was then thought to be the major constraint. In times of scarcity attempts were made to provide at least a minimal supply of essential raw materials to the small-scale sector. By the end of the Fourth Plan close attention was being paid to the key role of the entrepreneur and his needs in the form of training and consultancy services. In these ways the Government endeavouredto remove the constraints on the development of the small-scale sector and large numbers of enterprises were established as a result.

Central Government, in the form of the Development Commissioner (Small-Scale Industries),retained a co-ordinating and initiating role regarding policies and programmes, while responsibility for implementing these measures rested with state governments, utilising budgetary allocations for approved schemes. Central Government maintained however a direct involvement with the industrial extension service and thus with its economic service to monitor the progress of the sector,but the State department or directorate of industries was the main executive body and this department maintained the system of registration which entitled an enterprise to the various types of official assistance. In some instances, and more commonly of late, specialised agencies were established at state level to fulfill specific functions such as the construction and maintenance of industrial estates or the supply of raw materials. Since 1969 the nationalised banks and the major financial institutions have assumed an increasing role in meeting the sector's needs for long term loans and for working capital, leaving planned public sector outlays to undertake

TABLE 5

Public sector expenditure on industrial estates and small-scale industries during India Five Year Plans.

Rs million	1 Plan 1951-56	2 Plan 56-61	3 Plan 61-66	Annual Plans	4 Plan 69-74	5 Plan 74-79
Industrial estates	6	110	226	49	166	250
Small scale industries	52	444	861	393	703	2163
Rural industries projects	-	-	48	66	101	450
Total village and small industries	312	1800	2408	1326	2504	6111
Organised industries and mining	550	9380	17260	15100	29830	83280
Plan total	19,600	46,720	85,770	66,250	162,010	372,500

Source: Planning Commission

more developmental tasks. Increasing attention has been paid to dispersing industrial development away from the main metropolitan centres. A number of specific schemes have been tried and in the Fourth Plan special incentives including capital subsidies on investment were provided for backward areas. The distribution of estates at the end of the Fourth Plan is given in Table 6.

Given such a complex and overlapping series of agencies administering such a large variety of programmes and measures, difficulties have been experienced in co-ordinating activities within the same region or locality. The tendency has been to over-organise and bureaucratise the administration of the system and there has often been no clear sense of priority in for example, selecting products or individuals as deserving of official assistance. In the pressure to create new industries in the shortest possible time often insufficient attention is given to such basic questions as the choice of location, the choice of a product, the choice of technology, and the identification of a market.

While the temptation to concentrate first on one type of assistance, which was then thought to be the key to rapid industrial growth, and then another more 'fashionable' solution has now given way to a concerted attempt to provide packaged or integrated programmes of assistance the major weakness remains one of inadequate planning and preparation and a lack of market orientation. While mortality rates amongst small enterprises are still surprisingly low (10-15 per cent is the normal default rate on loans for example), large numbers of small enterprises face severe, so-called marketing or sales problems which are themselves symtoms of much more basic deficiencies.

SECTION TWO - THE INDIAN INDUSTRIAL ESTATES PROGRAMME

The industrial estates programme was launched in 1955 just before the end of the First Plan after initial attempts had been made to establish industrial estates in three states, Maharashtra, Punjab, and what is now Gujarat. The new policy had four main objectives:

1. to foster the growth of small scale industry
2. to provide conditions for achieving and maintaining a high level of productivity in small enterprises
3. to avoid increasing congestion in major towns
4. to generate growth and development in backward regions.

TABLE 6

Location of industrial estates in a cross section of states at the end of the Fourth Plan (31.3.1974).

	Functioning estates				
	Urban	Semi Urban	Rural	Not functioning	Total
Andhra Pradesh	19	12	3	1	35
Gujarat	45	15	13	4	77
Karnataka	14	9	-	1	24
Kerala	2	10	6	-	18
Maharashtra	25	22	4	2	53
Orissa	4	8	-	-	12
Punjab	12	1	6	13	32
Rajasthan	8	1	4	-	13
Tamil Nadu	12	17	5	-	34
All India	213	134	108	65	520

Source: DC SSI

The role of Central Government was mainly one of laying down policies for guidance of the State Governments and advancing funds for implementation of the programme. The tasks of planning, design implementation and management of the estates fell to the State Governments, as did the crucial decisions of location, selection of entrepreneurs and providing other types of assistance for which entrepreneurs in the estates would be eligible. From the very beginning the industrial estates programme was seen as being closely related to other measures of assistance given to the small-scale sector, particularly that of technical assistance. The industrial extension service was launched about the same time with the beginning of a network of small industry service institutes, and thus industrial estates were envisaged as including common service facilities, such as workshops and training facilies.

As was mentioning in passing earlier in this paper the first industrial estates to be established in India came about as a result of local initiatives. In 1952 an industrial estate was established at Poona in Maharashtra, while several industrial areas were established in Ludhiana, Jullundur and Patiala (Punjab) as part of the resettlement programme in the wake of the large-scale movements of population pre-Independence; while in 1955 in Rajkot (now in Gujarat) an attempt was made to consolidate the position of small businesses established during World War II.

Towards the end of the First Plan twelve estates were sanctioned including two under the auspices of the National Small Industries Corporation - a national agency whose prime task was to provide hire purchase facilites on plant and machinery - but this experiment was not tried again and local control was systematically introduced elsewhere.

In the Second Plan the drive to establish favourable working conditions for efficient small enterprises and to release a significant proportion of the small scale sector's funds, which were tied up in land and buildings brought about the sanctioning of 110 estates, many of them large urban estates in locations with a good industrial potential. During the Third Plan a further 348 estates were sanctioned in response to increasing small-scale industrial activity and popular demand for factory accommodation. Table 7 provides

TABLE 7

Progress achieved with industrial estates in India

	End of Plan i	2	3	3 x 1	4
	1956	1956-61	1961-66	1966-69	1969-74
No sanctioned	13	110	458	504	612
No completed		75	283	346	520
No under construction	13	45	175	115	92
No functioning		53	198	285	455
Sheds completed		2387	6326	8673	13351
Sheds allotted		1805	4947	6930	12019
Sheds in production		1127	3709	5113	11010
No employed		13358	54651	82740	175700
Value of output per annum Rs million		142	500	990	2,044 +

the details of this phase of rapid expansion and shows how far behind lagged the construction and effective occupation of the estates. This was perhaps to be expected, given the pace and scale of expansion in the face of a lack of expertise and experience in establishing and developing estates. With the Third Plan as a result of concern at regional imbalances came a specific encouragement to establish industrial estates in smaller towns and less developed areas. The concept of developed plots to make up industrial areas was introduced for urban areas, but the main expansion came in the rural areas in a strong drive towards decentralisation. This part of the programme was premature and was not well executed and the legacy of the phase of expansion remains in the occupancy ratios even today. The most common mistakes were poor location decisions and the lack of basic services such as water and power in some of the smaller rural estates. At this stage it was still the practice to site and construct industrial estates in advance of demand for factory accommodation, (a la British mode). The estates were thought likely to serve as catalysts for small-scale industrial development but the difficulties faced by these rural estates was an apparent lack of entrepreneurial talent and industrial skills in addition to severely inadequate infrastructure.

In the Fourth Plan provision was made for further consolidation of the programme with spill-over schemes and necessary facilities and services for existing or planned estates. The designation of less developed districts as 'backward' brought the entitlement to special incentives such as a 10 per cent capital subsidy to units located in these areas and industrial estates were seen as an essential tool for the creation of jobs opportunities in these areas. Also at this stage there was an attempt to link industrial estate development with town and country planning by designating industrial zones, areas and estates. The concept of what constituted an industrial estate matured and they became more specialised. In Maharashtra controls over further industrial growth in the metropolitan area were introduced and the technique of growth centres was developed to deflect industrial growth to other location selected to serve as focal points of future growth.

The concept of an industrial estate began as a general one and even now by far the majority of industrial estates are conventional ones with a wide range of enterprises manufacturing a wide range of products. There was little selectivity of entrepreneurs or products, the process of allocation being carried out on a first come first served basis. The result is that the newer technology and more capital intensive trades especially in engineering goods tended to be in the majority in earliest estates, although as time went on they became increasingly sophisticated.

Only recently has this trend started to change in certain specialised situations. There are now nine different types of industrial estate in India and the range of differing sizes is given in Table 8. The variety is surprising and is the result of the autonomous administration of the programme by the state authorities and the provision of special assistance to certain groups of entrepreneurs.

<u>Briefly, the various types are:</u>

1. Conventional general estates: these estates produce a variety of products, often with no linkages or associations between enterprises other than those of time and place.

2. Ancillary estates: these estates have been established for or sometimes by a single major large scale manufacturer, for whom the small enterprises, produce components and parts, although the enterprises may seek other outlets for their products.

3. Single trade estates: these estates consist of enterprises belonging to a single trade producing similar or competing products.

4. Functional estates: these consist of enterprises producing related products and subcontracting to one another, and often including both component manufacture and sub-assembly operations in small-scale units.

5. Technocrats estates: these are estates exclusively for technically qualified engineers who are provided with special assistance and a package of services to launch their own enterprises.

6. Craftsmen's estates: these are small, simple estate designed to help upgrade existing skilled artisans into fully fledged entrepreneurs with a much larger and more sophisticated scale of operations.

7. Co-operative estates: these are estates where members form a society and establish and manage the estate with assistance from the Government.

8. Commercial estates: these are estates designed primarily for service operations such as motor vehicle servicing or wholesale activities and trading. Normally service trades are excluded from most industrial estates in India, but some small specialised estates are now being established in response to demand.

As the Government of India has increasingly sort to diversify the Indian economy, it has attempted to encourage subcontracting and thus linkages between industries and enterprises within these industries. Major public and private sector concerns have been encouraged to contract out a significant proportion of their output. Ancillary estates have been developed recently in association with major public sector expansion programmes. Subcontract exchanges are being established in some centres to develop this concept further but as yet less than 5 per cent of small scale units act as component suppliers devoting majority of their output to either one or a small number of manufactures.

As the Government agencies responsible for promoting small-scale industries become more experienced and increasingly specialised, there is a tendency to establish single trade or functional estates. This is perhaps best exemplified by Tamil Nadu, one of the most industrially advanced states. This has been successful for leather, ceramics, electronics, and electrical goods, and is clearly a significant development. It requires a high degree of commitment in practice from the sponsoring agency together with a degree of professionalism and expertise as well as an awareness of production problems and a knowledge of the market, all of which are not normally encountered amongst official promotional agencies. Nevertheless this approach when properly carried out allows external economies which are rarely available in India outside the main metropolitan centres and the results so far are promising to say the least.

TABLE 8

Classification of industrial estates by size in a cross-section of states

	Small less than 4 ha.	Medium estates 4-12 ha.	Large estates over 12 ha.	Total
Andhra Pradesh	1	16	17	34
Gujarat	12	20	41	73
Karnataka	7	13	3	23
Kerala	6	10	2	18
Maharashtra	4	24	23	51
Orissa	3	6	3	12
Punjab	11	6	2	19
Rajasthan	1	7	5	13
Tamil Nadu	1	13	20	34
All India	122	174	159	455

Source: DC SSI

Industrial areas were first introduced because of a shortage of funds for the constructions of sheds and because there was a certain amount of dissatisfaction with standardised buildings. Where additional credit is available to cover the increased costs, the concept is popular and successful especially with the larger of these small-scale enterprises. In Maharashtra the concept has been developed to help the process of development in growth centres and industrial areas for large/medium and small-scale enterprises are located side by side. Major efforts are made to attract larger units which in turn serve to attract smaller enterprises to create an industrial complex. A similar formula has been utilised at Ambattur near Madras where an industrial township has been successfully established on the outskirts of the city.

The cost of the industrial estate programme is considerable. By 1974 some Rs 550 million had been spent by the Government on the programme. The breakdown of expenditure in a cross-section of states is given in Table 9. The majority of expenditure by the states is covered by Central Government loans. Loans for the cost of land and buildings are provided over a period of 20 years, and those for development over 30 years. Interest rates are 4.5 per cent.

Table 9 reveals just how wide the different levels of expenditure range between states and table 10 shows the average cost per shed in production. The imputed cost is substantially increased by the significant proportion of sheds not in use and compares with the national average cost of construction of Rs41,000. per shed. The average cost per estate was Rs1.05 million.

TABLE 2

Expenditure on industrial estates in a cross section of states up to the end of the Fourth Plan.

Rs million	1 & 2 Plans 1951-1961	3 Plan 1961-66	Annual Plans 1966-69	4 Plan 1969-74	Total
Andhra Pradesh	1[illegible].9	19.4	1.[illegible]	4.3	39.5
Gujarat	7.1	5.7	1.5	1.1	15.4
Karnataka	5.3	7.0	4.1	28.9	45.3
Kerala	6.5	9.8	3.4	8.6	28.3
Maharashtra	3.[illegible]	1[illegible].[illegible]	4.7	9.6	30.0
Orissa	6.[illegible]	12.0	2.[illegible]	7.5	28.3
Punjab	7.3	15.[illegible]	1.6	3.6	27.6
Rajathan	4.4	[illegible]	5.2	1.[illegible]	17.4
Tamil Nadu	17.5	46.6	10.6	32.4	107.1
All India	10[illegible].6	[illegible].5	[illegible].8	1[illegible].[illegible]	551.5

TABLE 10

Total expenditure on industrial estates in relation to sheds constructed and sheds in production in a cross section of states as at the end of Fourth Plan.

	Total expenditure Rs million	No of sheds construction	No of sheds in production	Cost per shed in production Rs'000
Andhra Pradesh	39.5	746	468	84
Gujarat	15.4	3227	2173	7
Karanataka	45.3	414	352	128.7
Kerala	28.3	533	408	69
Maharashtra	30.0	2286	1964	15.3
Orissa	28.3	341	188	150.5
Punjab	27.6	1006	857	32
Rajasthan	17.4	413	343	50.7
Tamil Nadu	107.1	780	627	170.8
All India	551	12968	9465	58.2

SECTION 3 - VISITS TO INDUSTRIAL ESTATES

During the course of my field studies in a cross section of three states, Andhra Pradesh, Punjab and Tamil Nadu, I visited twenty estates and interviewed the officials concerned and a sample of entrepreneurs in each. For the purpose of this paper I have reconstructed field notes on of these estates in Andhra Pradesh and Tamil Nadu and in this section of the paper will discuss my findings from one of each type of estates listed in Section Two.

SANATNAGAR INDUSTRIAL ESTATE, HYDERABAD

Sanatnagar is a conventional industrial estate within the outskirts of the twin cities of Hyderabad and Secunderabad. It was sanctioned in 1956 and the first sheds were occupied in 1958 so it serves as an example of a long established estate in the traditional mould. In practice the more successful estates in India have been phased in their construction. Further expansion has often come in response to excessive demand for the available accommodation. Thus Sanatnagar has gone through six phases of expansion and now rates as a large estate which is fully occupied. with 100 factory units of 3 types being occupied by 81 enterprises. The total investment by Government was Rs 6.2 million giving a unit cost of Rs 82,000. The estate is slightly unusual in that it is now the site of a major toolroom established with international assistance. There is a full range of services and facilities available and an active small industries association on the estate. About half the factory units were rented and the remainder purchased under a hire purchase arrangement. The enterprises now established on the estate are frequently sophisticated utilising advanced technology products and production processes. Many of the enterprises would be near the limits, if not in excess, of the official definition of small enterprises. The combined output of units on the estate is about Rs 100 million per annum with a labour force of 3,000. Interestingly (and this was a pattern repeated all over India) despite their obvious prosperity and success none of the enterprises had left the estate to expand elsewhere. In the initial phase four groups of people tended to make up the earliest group of entrepreneurs. These were those already connected with business, those with industrial experience as executives, those without experience who 'saw' a business opportunity, and some offshoots or subsidiaries of larger-scale enterprises. At that stage the market was open and raw materials and power supplies were readily available. Later arrivals in the estate were entrepreneurs better equipped with technical qualifications but they were faced with extensive bureaucratic delays in a plethora of Government departments who exercised control, severe raw material shortages, and major commercial and marketing problems. For established businesses the major problems were said to be raw material supplies (then in great scarcity), import controls and high costs (because of excise taxes), a lack of continuity of power supplies, and market instability. Many units were experiencing labour difficulties because of a shortage of skills and high turnover rates with competition from large scale plants with which small businesses found it hard to cope. Small businesses large working capital requirements were exacerbated by the need to carry large stocks (3-4 month's supply of raw materials) and by delayed payments from larger businesses. While these views of the working of the Indian economy were not embraced they were a fair reflection of the attitudes of the established small-scale sector at a time of tight government controls and are essionary period. The enterprises on this estate were sophisticated in their marketing and management. They imported designs and technical know-how if the need arose and valued the recent addition of a quality marking centre on the estate. In part because of its favourable location near to the state capital but also because of the entrepreneurial ability there the industrial estate had become a viable, undoubtedly profitable, business community in a twenty year period.

CRAFTSMANS GUILD ESTATE, HYDERABAD

This small estate is an innovation in Andhra Pradesh and is designed to provide an opportunity for establishing a small business with 100 per cent loans from the banks, so that the craftsmen did not have to find a large personal stake or have to pledge security for the loans. The scheme was designed and sponsored in 1971 by the State Small-Scale Industries Development Corporation, which guarantees craftsmen's loans for machinery and for working capital and provides some practical assistance. The object of the scheme is to provide craftsmen with very small sheds and credit facilities and hence an opportunity for self employment, primarily through jobbing and servicing tasks, but also through simple processing or manufacturing perhaps with work sub-contracted from a larger enterprise. High level technical skills were avoided and a limit was imposed on the amount to be invested of about Rs30,000. 27 of the small units were supplying one concern under contract which supplied raw materials and maintained an inspector full-time on the estate to provide advice and ensure quality control. Since 1971 20 per cent of the small units had failed to maintain their repayments on the sheds and machinery and had been reluctantly closed down by the banks. There was a waiting list of craftsmen waiting to take over the vacant sheds and the most successful units were suffering from a lack of space and were seeking to expand their businesses, but singificantly none as yet had left the estate. A variety of trades were prospering and the scheme was an exciting experiment in aiding craftsmen with little or no capital.

TECHNOCRATS INDUSTRIAL ESTATE, BALANAGAR, HYDERABAD

This estate was another innovation by the State Small Scale Industrial Development Corporation. The idea of encouraging technically qualified graduates or diploma holders in engineering to establish their own businesses by making special credit facilities available to them originated with the State Bank of India's Supervised Credit Scheme/ Technocrats Scheme in 1968, but the APSSIDC took the concept a stage further by constructing a special estate for 'technocrats' in order to solve the problem of a lack of suitable accommodation. The Balanagar Technocrats Estate is one of the estates and large-scale plants which make up an industrial zone on the outskirts of the twin cities. The estate was built in two stages, the first being heavily over-subscribed. The estate consists of 106 sheds of two sizes, all of which were allotted to technocrats on a hire purchase basis. Great care was given to selecting entrepreneurs who were highly qualified ....

and with some industrial experience. The nationalised and commercial banks provided 100 per cent loans to cover the cost of plant and machinery and working capital. While technical advice is provided by the corporation mainly during the preparatory and start-up periods, most of the 140 technocrats involved (some were in partnerships) were thoroughly competent to deal with production difficulties. Only three of the original 50 units in Phase One of the estate have failed and none from the second phase, although three or four were said to be in difficulties because of bad management or sales problems. Many of these units had designed and developed their own products and were establishing firm market bases. High precision engineering with stainless steels for the atomic energy programme, electronic components for defence, transmission equipment for utilities, are examples of the calibre of the products of the estate. One serious deficiency in the design of the estate was the lack of space for expansion, which will certainly be required before long.

SURYAPET ESTATE, NALGONDA DISTRICT

This is a rural estate situated in a Rural Industries Project District. As such units on the estate are entitled to special assistance from the project team in Nalgonda, the district headquarters. Since Nalgonda is also classified as a backward district, capital subsidies of 15 per cent are available to aid the establishment of new enterprises and certain state incentives, such as exemption from water charges, a subsidy on power, concessionary rentals on sheds, and a refund of sales tax as an interest free loan, are also available.

Suryapat estate is the only estate in a district of [illegible] villages with a population of 1.6 million (1971). Its location on the national highway between Hyderabad, the state capital, and Vijayawada, a city on the coastal plain, has contributed to its success although progress has been gradual and the construction of sheds paced in response to demand for factory accommodation. All of the [illegible] units functioning in the estate have been established by local entrepreneurs - reflecting local commitment and interest in the project. The local labour force has had to be trained and only in one case (that of the rerolling unit) has external skill been brought in under contract. Those units serving the local market for utensils, packaging and agricultural implements have prospered but those attempting to supply state markets have suffered from their relative isolation ([illegible] kms from the state capital). In particular the lack of ready access to government officials over raw material supplies or public sector contracts, has increased the difficulty of market penetration and in one instance was the cause of a loss in business. Perhaps one of the most interesting units was that manufacturing aluminium utensils which were sold via the local '[illegible]' in return for old utensils which were then recycled; surplus production was sold off in the state market though transport costs sometimes led to a loss on such sales.

TIRUPATHI INDUSTRIAL ESTATE CHITOOR DISTRICT

Tirupathi is a major pilgrim centre in Southern India and the industrial estate is an attempt to diversify the local economy and to take advantage of the proximity to Madras (100 kms to the south). The district is classified as backward and small-scale units there are eligible for special incentives and assistance in establishing a business. The location chosen is between Tirupathi and Renigunta, a major rail junction. Recent development has centred around a series of three District intensive campaigns, when some 10 or more state development organisations came together for a short intensive programme of visits and consultations in the district designed to identify prospective entrepreneurs and possible industrial schemes which would be assisted. Since 1974 out of over [illegible] applications, 30 project proposals have been accepted, 14 units are already in production and a 6 are under construction. The location of Tirupathi is such that the special incentives have attracted some capital from other states including one medium scale plant manufacturing mopeds. Clearly an opportunity exists for subcontracting some work to local small enterprises but little progress has been made so far. One unit on the estate was a joint venture with the state Small-Scale Industrial Development Corporation for the for the manufacture of glass-fibre [illegible]. Clearly this was an example of an undercapitalised venture without adequate technical know-how and a lack of market appreciation. It was almost certainly an operation which was not suitable for development on a small scale.

TIRUVARAMBUR ESTATE, TIRUCHIRAPALLI

This is an ancillary estate built alongside the BHEL heavy electricals plant outside Tiruchirapalli. The estate was built by the state agency, Tamil Nadu Small Industry Development Corporation in order to provide suitable accommodation for subcontractors to the main plant. Some 30 per cent of BHEL output is now contracted out to over 200 small-scale units in the state. Most of this work is metal fabrication although there is some machining. It is felt that a practical limit has now been reached by BHEL with its outside contract work and an attempt has been made to spread the benefits and employment effect over a wide area to reduce the vulnerability of any one locality to BHEL's fortunes. Many of the units on the ancillary estate have been established by former BHEL staff or formerly unemployed engineers. The amount of practical assistance given by BHEL is large (see Table 11), yet 40 per cent of units in Tiruchirapalli did not achieve half of their planned output in 1975. Better supervision is claimed to have reduced this to less than 15% in the current year. Given the degree of supervision by BHEL, and the automatic supply of raw materials this short fall is surprising, yet the achievement of profitable businesses on the estate within two years when the entrepreneurs had no previous business experience is common on the estate itself. Here almost the entire output of the small-scale units was taken by BHEL and most had not investigated alternative markets. Their greatest problem was the fixed rate paid by BHEL for fabrication work with a varying labour content. There was a certain amount of unease about the dependence of both parties on each other and a process of product diversification will come about even for these ancillary units in close proximity to BHEL.

TABLE 11

Facilities provided by BHEL/Tiruchi towards the development of Ancillary Units and also in their day-to-day working.

1 Finalising of Plant layouts.

2 Free technical advice for setting up of Units and for manufacture of fabricated and machined components.

3 Guaranteed workload for one shift working.

4 Inspection of finished products at their premises and supply of knowledge of quality standards.

5 Free supply of raw materials as the work involved is almost fully conversion work. Indemnity Bonds in lieu of Bank Guarantees are accepted as a special case.

6 Providing detailed working drawings.

7 Technical supervision and assistance in advance planning of production, scheduling and actual execution.

8 Fixed rates for contract work.

9 Free testing facilities such as qualifying of welders and non-destructive testing.

10 Loan of special tools, jigs and fixtures.

11 Establishing a full fledged Department under the overall control of Manager/Materials to co-ordinate the various activities in the Industrial Estate. Cost Rs 200,000 per annum.

AMBATTUR INDUSTRIAL ESTATE, MADRAS

Ambattur Industrial Estate covers an area of 485 ha. and is an amalgam of small, medium and large scale industrial units. The total number of enterprises is 534, of which 434 are small-scale, and the total capital employed is Rs 340 million, 140 million in the small-scale sector. 35 per cent of the capital employed in the small-scale sector comes from Government, a further 48 per cent from the banks and other financial institutions. The amount of capital employed per employee in the small-scale sector is Rs 11,200 and the gross output per head is Rs 16,800; the comparable figures for the large and medium scale units are Rs 25,000 and Rs 18,750.

In many of the small-scale units high technology products and sophisticated management techniques are used. The major constraints on growth tend to be external rather than those under the entrepreneurs control. It was claimed that there is a lack of incentives for growth into medium and large scale units, indeed certain fiscal and business conditions discourage it. The ready availability of finance and infrastrucutre, such as sheds and services, were cited as the major attractions for small-scale entrepreneurs at Ambattur; the latter was particularly important since it freed capital, reduced costs and organisational problems at the launching of a new enterprise. The large output from the technical education system and the corresponding lack of job opportunities provided a 'push' factor for would-be entrepreneurs. Before the recession in 1973/74 a high level of demand had led to rapid turnover of materials and good profit margins, but during the recession many units were prevented from expanding and improving efficiency because of a scarcity of funds for investment and the pressures of rising costs and interest charges.

INSTRONICS ESTATE, MADRAS

This estate was launched in 1972 as a major centre of the electronics industry in the South of India. The estate was sponsored by the state Directorate of Industries in an attempt to foster the establishment of a new high technology industry in the state. It is a functional estate consisting of small-scale units manufacturing electronic products and instruments. An integral part of this project was the provision of a sophisticated testing laboratory on an adjacent site.

This estate is probably the most advanced and sophisticated estate constructed in India. Planning, design and construction were organised incorporating the lessons learned from previous estates in the state. The location was carefully selected to provide access to labour, nearness to the local technological establishments, and to provide freedom from vibration and radio signals. Careful planning and design of the buildings in consultation with the entrepreneurs provided for landscaping and trees for shade, multi-storey buildings for the first time with controlled environments for precision work and multi-access for flexibility, and simple structures for economies in construction yet with plenty of space for expansion. The development of the estate was phased with the allotment of sheds at the foundation stage to carefully selected entrepreneurs. Preference was given to higher value, higher precision and technology products with a variety of related products to encourage natural linkages. Some component production and some end assembly operations were deliberately included. Testing facilities according to the entrepreneurs requirements were provided from the start although these will be superseded by the test laboratory when it is completed at a cost of Rs 4.5 million. The next stage in the development of the concept is the development of a 'functional area' of 65 ha adjacent to the estate for about 100 units which will include medium and large scale units, including foreign owned plants.

SECTION FOUR - CONCLUSIONS

The size of the industrial estate programme is such that it now reflects the degree of commitment at national, state and district levels to the concept of an industrial estate occupied by a series of modern small-scale units. The force of this commitment which extends in some states to providing at least one industrial estate in each district and in all to utilising estates as tools for 'rural industrialisation' is essentially a political one. A successful industrial estate is a concrete, vibrant and immediate demonstration of national development at the local level which has considerable political and social, as well as economic, appeal almost regardless of cost. The industrial estate is regarded as being systematic of modern high technology industry and as such has a certain status of widespread appeal. In addition an estate is commonly held to possess a catalytic effect for further industrial development and further job opportunities which are a tempting proposition to both planners and politicians.

The advantages and consequent appeal of industrial estates to the entrepreneurs, especially if they are establishing a new business, are similarly clear. First and foremost acquiring a ready-built shed on an industrial estate is a means of raising additional loan capital on the land and building. In some states such as Punjab where the cost of land is high this removes a major obstacle to the establishment of a new business. Frequently the rents are subsidised by as much as 50 per cent for the first five years, while hire purchase terms are generous and technocrats or craftsmen may be eligible for a state grant to cover the initial down payment-giving the entrepreneur 100 per cent of the total cost. Of more widespread benefit is the short circuiting of administrative procedures, regulations and bureaucracy involved in the construction of a factory building and the laying on of essential services. These procedures can involve substantial delays and costs. In addition once located on an industrial estate an entrepreneur is more likely to obtain assistance from the government agencies concerned, simply because he is more accessible and under closer observation than if he were situated outside an estate.

The implementation of the Indian programme does provide a number of lessons. The design and construction of the estates can achieve substantial economies in land use and in overall cost. Estates such as Guindy in Madras paid the penalty of being the first in the excessive building standards and rather wasteful layout. Consultations with the entrepreneurs who are to use the buildings can ensure the appropriateness and increased flexibility of the buildings. Indeed a local commitment and involvement in the construction and development of an industrial estate is a prerequisite for success especially in an environment which is hostile to small industries. The concept of building sheds in advance of demand can have a demonstrative value but this rebounds if the estate is not a commercial success, and phased development is more likely to be the norm.

There are two key decision areas which determine the success or failure if an industrial estate. These are the choice of site and the choice of entrepreneurs as 'encumbents'. There is evidence to suggest that many of the location decisions in the Indian programme were taken for non-industrial reasons, often political ones for the reasons referred to above, and many were taken by uninformed officials without prior survey or investigation or feasibility studies. In particular it is rare to find in India thorough market evaluation for estates or for products to be manufactured in these estates. All too often these decisions are tantamount to acts of not-very-inspired faith. Furthermore it has commonly been the practice to allocate sheds to entrepreneurs on a first come first served basis. In part this resulted from the very rapid rate of growth of the small-scale sector in India during the Third and Fourth Plan, but this cannot continue without some regard to existing installed capacity, local resources and skills and the level of demand for particular products. With increasing competition in the small-scale sector in India greater regard has to be paid to questions of relative efficiency and potential. These faults in the implementation of the Indian programme are known and largely accepted by the Government. They stemmed from an all too rapid rate of expansion in the programme and the more advanced states have refined their approach with much greater effect. However it must be said that in attempting to use industrial estates to initiate development in backward areas, the margin for error is reduced. There is a trend in the Indian programme towards increasing specialisation of estates and of sponsoring agencies, exemplified by both Andhra Pradesh and Tamil Nadu. In Andhra Pradesh one state corporation, the Industrial Infrastructure Corporation, has taken over responsibility for the construction and management of industrial estates, and associated services such as workers' housing, from a variety of bodies. In Tamil Nadu the pattern is for product specific organisations such as those in leather, ceramics and electronics, to initiate such developments as well as more general developmental agencies. These functional estates given the necessary commitment from the state government are likely to be very much more successful and can seriously begin to provide common service facilities and technical assistance when and where they are needed.

The industrial estate programme in India is an integral part of the Governments entire approach to the development of a small-scale sector. The figures for expenditure and costs (given in Table 9) understate the amount of resources devoted to the programme. The costs of services of planning and administration of the programme are hidden elsewhere. The industrial extension service is run as a separate programme but is closely involved both before and after construction of an estate. The various entrepreneurial development and employment programmes are an essential component of the Indian approach and have served to identify prospective entrepreneurs and to create the demand for the estate. Where an estate programme involves a majority of new enterprises, claimed in India to be 81 per cent, then supporting technical, financial and managerial services are an essential follow-up. It is consequently extremely difficult to separate out the effectiveness of the Indian industrial estates programme from that of the small industry programme as a whole. While its costs are clearly high, it has and is likely to remain in the fore front of small industry development and can profitably be used as a stimulus to industrialisation although it is doubtful if it is a catalyst in its own.

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