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Expert Group Meeting on Evaluation of the Effectiveness  
of Industrial Estates in Developing Countries

Vienna, 13 - 16 December 1976

CONSOLIDATED SURVEY<sup>1/</sup>,

by

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<sup>1/</sup> The views and opinions expressed in this paper are those of the author and do not necessarily reflect the views of the Secretariat of UNIDO. This document has been reproduced without formal editing.

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P R E F A C E

This is the second consolidated report arising from the study of the contribution of industrial estates to the industrialisation of developing countries. This study has been carried out in two phases, the first between November 1975 and March, 1976. The findings from this group of studies were issued for restricted circulation in the Report on the Industrial Estates Programmes in Six Countries in April, 1976.<sup>1</sup> It is referred to throughout the present text as the First Report.

The first phase was financed by the Swedish International Development Authority, (SIDA), and involved study missions in Cuba, Ecuador, Iran, Pakistan, Senegal and Turkey. In July, 1976, SIDA and UNIDO jointly decided to proceed with a second phase to try and provide more representative coverage. This phase was executed between September and November, 1976. Countries visited were Argentina, Malaysia, Nepal, Nigeria, Shri Lanka and Sudan. In addition, a short mission was financed by UNIDO to India, but much of the material in the India Report<sup>2</sup> was collected by the consultant during a mission earlier in the year on behalf of the Overseas Development Institute of the United Kingdom. A study carried out by an Indian research worker, Dr. N Somasekhara, published in book form in 1975, has also been used as a source of information.<sup>3</sup>

The following consultants took part in the study on behalf of UNIDO:

Mr. C-R. Droesch,	Senegal, Sudan
Mr. F.C. Helm Mr. J. Levitsky } Mr. M.V. Hogg,	Cuba
Mr. A. Neilson,	India
Mr. R.K. Vepa,	Malaysia, Nepal
	Shri Lanka

<sup>1</sup> UNIDO: Report on the Industrial Estate Programmes in Six Countries; (UNIDO/SIDA), Vienna, 1976. UNIDO/IOD 16

<sup>2</sup> UNIDO: Evaluation Report on Industrial Estates No. 13 - India, IDWG 231/12

<sup>3</sup> N. Somasekhara: The Efficacy of Industrial Estates in India; Delhi, Vikhas Publishing House Private Ltd., 1975

Mr. J. Sigurdson	Pakistan
Mr. D. Wall	Iran
Mr. C.R.Wynne-Roberts	Argentina, Ecuador, Nigeria, Turkey

Missions were of two weeks duration, except in Turkey, which lasted for three weeks.

The studies were initially directed by Mr. Jacob Levitsky for UNIDO and Mr. Lars Berggren for SIDA. After July, 1976, direction for UNIDO was taken over by Mr. Hans Fahlström and Mr. Subrahmanjan Nanjundar. The two consolidated reports were compiled by Mr. Wynne-Roberts.

Acknowledgements to the many people who helped the consultants in the countries visited have been made in the respective country reports.

## I N T R O D U C T I O N

The original purpose of the study laid down by the Swedish International Development Authority was to evaluate the role of industrial estates in industrial and social development, particularly in the field of medium and small scale industries. One of the main questions underlying the study was: If developing countries are to be assisted to industrialise, is the promotion of industrial estates - and, by implication, the provision of funds to help establish them - a valid and economical means of doing so and what are the conditions necessary for success? Implicit in the first question is a second: What are the alternatives?

The question was partially posed in Chapter V of the First Report under the title: "Factors influencing the Success of industrial Estates." Seven groups of factors were identified on the basis of material collected in the first six studies. The second set of studies has both modified the question and modified and amplified some of the answers.

In the original guidelines the consultants were asked to try to calculate, as far as possible, the return on investment in an industrial estate. The return might be measured in terms of "revenues to capital investment, separating total investment into investment in infrastructure, factory premises and technical services".

This question has proved impossible to answer. Only in the case of a few countries and a limited number of estates has it been possible to obtain separate figures for the various elements, and even then, "return on investment" was found difficult to define. Should the return be to the government on the public money invested in or loaned to the estate? Should it be the return to the entrepreneur who had moved to or set up a new plant on an estate? Since the primary purpose in investing public money in industrial estates is in furtherance of some national or local development, is not the pay-off the increase in employment, national or local, or increase in output



directly attributable to the estate or programme? At no level was it possible to obtain figures sufficiently comprehensive or reliable to provide any meaningful answer, although attempts were made in two or three country reports. Some estimates of doubtful validity were made, where some information was available, so as to indicate orders of magnitude.

A further question considered important by the originators of the study was that of the social effects of an industrial estate on those working on it and on the surrounding community. Here again the evidence was thin and where there was evidence of effects, generally beneficial, they were, in general, incidental by-products.

The inclusion of India in the second phase, with the addition of the critical study made by Dr. Somasekhara, made good an important omission. India has the largest industrial estate programme in the world and, although many studies have been made of it and much is known, something must be said, even in a limited study of this type. Obviously only a small sample could be studied in the limited time available - fortunately it was possible to profit from the earlier study done for the ODI to obtain rather better coverage. The sample used in Dr. Somasekhara's study is also a limited one, but it has the special merits of being the only in-depth study carried out over an extended period of time and of using truly scientific methods, including the use of a control group. The lack of any such groups in the UNIDO studies was a major weakness.

The present report deals with the questions raised in the following order:

- Chapter I. The contribution of industrial estates to national economic and industrial development and the alternatives.
- Chapter II. The factors influencing the success of industrial estates.
- Chapter III. Other economic and social effects.

The Objectives of industrial Estate Programmes

The objectives stated for promoting industrial estate programmes by the governments of the countries visited are broadly similar. They include some or all of the following:

- (1) to advance national economic development by accelerating industrial development;
- (2) to create employment opportunities, often to offset irregular employment in agriculture;
- (3) to decentralise industry and spread the benefits of industrialisation more evenly in the country and thus diversify and increase economic activities in rural and backward areas;
- (4) to promote and to raise productivity in small-scale industries;
- (5) in India, in particular, the promotion of specific industrial sectors and groups of skilled and qualified persons;
- (6) the removal of industries, especially small and artisan industries, from congested urban areas.

The Government of the Santa Fé Province, Argentina, classifies industrial estates into three groups:<sup>1</sup>

- |                      |   |
|----------------------|---|
| <u>Promotional</u>   | - Designed to promote industry in regions economically and industrially underdeveloped.   |
| <u>Developmental</u> | - To promote the location on a single site of firms in cities partially industrialised with a view to the further development of industry.                        |
| <u>Dispersal</u>     | - To remove industrial enterprises from cities where they are in congested premises and where expansion is difficult and where they cause environmental problems. |

Most of the objectives outlined above can be covered by one or other of the categories of estate. Purely commercial ventures, unaided by government, are not mentioned and are of minor importance in this study.

<sup>1</sup> UNIDO: Evaluation Report on Industrial Estates No.8 - Argentina.  
IDWG 231/14

I. THE CONTRIBUTION OF INDUSTRIAL ESTATES TO ECONOMIC AND INDUSTRIAL DEVELOPMENT AND THE ALTERNATIVES

1. The Contribution of industrial Estates

It has been assumed for a long time that industrial estates are one of the best and, presumably, most economical ways of promoting the development of manufacturing industry, especially small scale and medium enterprises, in countries in the process of industrial development. Their use has been extended to promote the economic development of rural and backward regions and for other purposes mentioned in the Introduction.

A number of international meetings have been held under United Nations auspices in the last 15 years. Most of them have described experiences and projects, with much of the emphasis on the mechanics of estate design, planning, construction and operation. Little appears in the reports in the way of critical appraisal.<sup>1</sup>

There has not been time in the course of this study to obtain access to the body of literature on industrial estates outside United Nations publications, but it is known that in India, at least, a number of individuals and bodies have raised in recent years questions about the overall effectiveness of the programme. One of the most recent is Dr. N. Somasekhara, who has based his criticisms on a lengthy, in-depth study.<sup>2</sup> He does not suggest, nor does Mr. Molinari, (see footnote), that industrial estates are not effective as a means of accelerating industrialisation under all conditions. Both cite successful examples. Equally, both challenge their use indiscriminately and without proper preliminary studies. One of the most important parts of this report is that in which an attempt is made to analyse what are the conditions for success.

<sup>1</sup> An exception is a paper by Mr. A. Molinari published in the proceedings of a UN meeting. United Nations: Industrial Estates in Asia and the Far East; New York, 1962. "Some controversial Questions concerning industrial Estates", A. Molinari, pp. 415-443.

The conditions under which the recent field studies for this report were conducted were not such as to permit the scientific collection and analysis of data, which might have produced some more definitive answers to the questions raised. There are serious gaps in the evidence and some of it is necessarily subjective in the absence of reliable or comparable statistical data.

Among the countries studied the effect of industrial estates on national industrial development in Argentina, Ecuador, Iran, Nigeria and Sudan is either nil or negligible because there are none or because they are so few and so small that they contain only a minute fraction of the country's industry. In Argentina and Nigeria, and especially in Iran, there are important projects, but they have not yet developed to the point where they are contributing much. However, Argentina is included in the discussion in this chapter because it provides one interesting example of a contribution to regional development.

To be worth discussing, an "industrial estate" must be something more than plots of prepared land sold to industry with the role of the estate authorities thereafter confined to that of a municipal public works department. This leaves all initiative in the hands of the industrialists, which may be enough in the case of large industries and major foreign firms, but is not nearly enough to promote the success of indigenous small enterprises. By this criterion the large industrial areas outside Lagos and Kano in Nigeria may be said to have facilitated the location of the factories on them - in fact most firms had little choice - but cannot be considered to have contributed to industrialisation in the sense in which it is being discussed in this paper. For that reason only eight of the twelve countries visited, excluding Cuba for reasons explained below, have been included in the examination of the "contribution to industrialisation" in this Section of Chapter I.

Cuba is a special case. It is a centrally planned and controlled economy in which the rate of industrialisation, the selection

of industries to be developed, the location of industrial zones and all other related questions are part of an overall socio-economic plan. The success or failure of industrialisation is thus in no way dependent on the promotional or developmental value of grouping industries together. The Cuban experience, interesting as it is in itself or for what may be learned of the planning and operation of the industrial zones, is largely irrelevant to this discussion. It is further discussed in Section 2 of this chapter. The other eight countries are briefly examined in turn below.

(a) Argentina

Argentina is interesting in the present context because of the contribution which one or two industrial estates are making to regional development. The Provincial Government of Chubut, a province lying some 1,400 kilometres to the south of Buenos Aires, which is very sparsely populated, has set up industrial estates with the primary objective of attracting immigrants to the province. An extensive range of incentives is offered to industry settling there.

The policy seems to be proving successful. The estate at Trelew, a town whose population has doubled in two years to reach 25,000, was visited.<sup>1</sup> It contains mainly medium sized plants, most of the present ones being in the textile industry, spinning and weaving synthetic fibres. They are rather capital intensive. 24 are currently in operation employing 3,000 people, mainly women. There was no unemployment in the town and the jobs are for the most part occupied by immigrants. 15 factories are under construction and 27 further plots have been sold. When all the plants are in operation the available employment should have at least doubled and no doubt attracted more immigrants. There are three other estates in the province, including an important one at Comodoro Rivadavia in the south.

(b) India

The Indian industrial estates programme is so large, actually and relatively to those of any other countries, that any attempt to give a comprehensive account of it here would not do it justice.

<sup>1</sup> Argentine Report, Appendix III, A.3 and p.33 et seq.

It has, in any case, been extensively written up and used as a training ground and a model for successful programmes in many other developing countries. The Government considers it a success.

It has certainly been successful in certain fields and, if it has fallen short of expectations in relation to some of the overall objectives, there are good reasons which are touched upon below. The study made by the UNIDO consultant was able to update information with regard to some industrial estates in Andhra Pradesh and Tamil Nadu as well as some general statistics. The study by Dr. Somasekhara has been used because it points up certain weaknesses in some areas and has much to say which can be of value to countries in the process of establishing industrial estate programmes. It must be stressed again however, that what is presented is only a small part of the total picture.

The industrial estates programme in India must be seen in the context of the Government's general industrial policy. This has been dictated by four major considerations:<sup>1</sup>

- the achievement of economic independence;
- the correction of the imbalance between the primary and other sectors;
- the creation of employment opportunities to combat massive unemployment and under employment;
- reducing the concentration of economic power and diffusing prosperity.

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<sup>1</sup> India Report, op. cit. p. 2.

The creation of a strong small industry sector was seen as one major means of achieving these objectives. Small-scale industry now plays an important part in the economy. The number of registered small units exceeds half a million and the output is in excess of 57,000 million rupees.<sup>1</sup> Data available for 1972 reveal that the production of the small-scale sector in 16 industry groups amounted to 35 per cent of the total industrial output from the registered sector and that there were 160,000 working small-scale units in the country. For 140,000 of these units data was available. 88 per cent of them had been established since the beginning of the First Plan in 1951. Five per cent were located in industrial estates. Global data are as follows:<sup>2</sup>

No. of Units	Employment	Investment Fixed Assets (Rs '000)	Investment/Employee <sup>3</sup> Rs.	Gross Output (Rs '000)	Gross Output/Employee <sup>3</sup> Rs.
132,577	1,654,317	10,568,430	6,388	26,027,385	15,377

The rapid development of small scale industry is one of the primary objectives of the industrial estate programme, a second being the dispersal of industry to rural and underdeveloped areas to raise their levels of industrialisation.<sup>4</sup> Of the total public expenditures in the first four Plans, (1951-74), 508 million rupees were allocated to industrial estates out of a total allocation to small industries of 2,164 million rupees, nearly 20 per cent.<sup>5</sup> At the end of the Fourth Plan 520 estates had been established and a further 92 were in the planning stage. Figures for 1972 are:

Estates Completed	Number Operat.	Sheds in Prodn.	Numbers Employed	Value of Output (Rs '000)	Output/Employee <sup>6</sup> Rs	Investment 1951-74 (Rs '000)	Investment/Employee <sup>6</sup> Rs
520	455	11,010	175,700	2,044,000+	11,633+	508,000	2,891

The real investment per post created will be higher, because many existed before the firms moved on to the estates, but on the other hand,

<sup>1</sup> India Report, p. 3.

<sup>2</sup> " " , p. 4.

<sup>3</sup> Added by the Editor.

<sup>4</sup> Somasekhara, op. cit. p. 8.

<sup>5</sup> India Report, p. 10, Table 5 and text p. 9.

<sup>6</sup> Added by Editor

by no means all the estates were filled up at this point and many more posts would be created. It may be noted that the annual output per employee on industrial estates is rather more than 11,633 rupees for the year, while that for small industry as a whole is 15,733 rupees, which seems to confirm Dr. Somasekhara's thesis discussed below. Figures for output on two of the estates visited by the consultant were:

Sanatnagar Estate,<sup>1</sup>  
Hyderabad

No. of Units	Employment	Government Investment Rs	Investment/ Employee <sup>2</sup> Rs	Output/ Annum Rs	Output/ Annum Rs	Output/ Empl./ Annum <sup>2</sup> Rs
81	3,000	appr. 8,200,000	2,733	100,000,000	33,333	

Ambattur Estate<sup>3</sup>  
Madras (SSI only)

No. of Units	Employment <sup>4</sup>	Total Capital Rs	Capital/ Employee Rs	Government Capital Rs	Govt.Cap/ Employee <sup>2</sup> Rs	Output/ Annum <sup>4</sup> Rs	Output/ Employee Rs
434	12,500	140,000,000	11,200	49,000,000	3,920	210,000,000	16,800

Both these estates contained small units using advanced technologies and the Sanatnagar Estate is said to have full central facilities and a toolroom with international aid.

Dr. Somasekhara's study carried out in Mysore State across two periods with an interval of ten years is full of interesting material and deserves to be read in full. His conclusions are that the industrial estates programme as a whole has not achieved its objectives and, in the conditions in which it was operating at the time of his second study, (1971-72), was not an effective tool for:

- creating new small enterprises;
- creating employment opportunities;
- the industrialisation of rural and backward areas.<sup>5</sup>

<sup>1</sup> India Report, p. 22.

<sup>2</sup> Added by the Editor

<sup>3</sup> India Report, p. 29

<sup>4</sup> Calculated from the figures given in the Report.

<sup>5</sup> Evaluation Report No. 14, p. 1.



In his Concluding Remarks he says that both in the original, (benchmark), study of 1961-62 and in the follow-on study of 1971-72:<sup>1</sup>

- comparative indices of real technical and economic efficiency on industrial estates are consistently lower than those for the control group of firms outside;
- industrial estates have become comparatively capital intensive, (one reason being the preferential treatment of firms on industrial estates in the supply of machinery, domestic and foreign);<sup>2</sup>
- the rate of growth of employment on estates was relatively lower than in the control group;
- neither gross output nor gross earnings have increased faster than outside;
- industrial estates have sustained and fostered otherwise inefficient small firms which outside would have died a natural death;
- industrial estates have not been very successful in establishing small industries in rural and backward areas;
- shifts of units from places of higher concentration to rural estates were almost non-existent.

It is not possible here even to summarise the evidence on which these findings are based. Criticisms of a similar nature, although less scientifically documented, have been made by other researchers and observers in recent years, including the International Perspective Planning Team, financed by the Ford Foundation, and a World Bank mission in 1965.<sup>3</sup>

Dr. Somasekhara does not suggest that all the industrial estates are ineffective and mentions specifically the Okhla Estate at Delhi and the estate at Guindy, Madras, as exceptions. He suggests that major reasons for their success is that they are better organised as to facilities and that this is possible because they are big and homogeneous in the industries represented.<sup>4</sup> His suggestions for means by which the performance of estates can be improved are contained in pages 10 to 22 of his Concluding Remarks. They are referred to in the Conclusions to this Report.

<sup>1</sup> Evaluation Report, Concluding Remarks, p. 1 et seq. or Somasekhara, op. cit.

<sup>2</sup> Evaluation Report No. 14. p. 7.

<sup>3</sup> " " No. 14. pp. 9-10

<sup>4</sup> " " No. 14. p. 6, Footnote 50.

The India Report says that considerable success has been achieved in promoting specialised and advanced technology estates such as the Technocrats Estate at Balanagar, Hyderabad, created to enable qualified engineers to set up enterprises, the Instronics Estate at Madras, (electronics and instrument making), and Furuvarambur Estate, Tiruchirapalli, which is composed mainly of sub-contractors of Bharat Heavy Electrical Corporation.<sup>1</sup> These estates have had special financial aid and all have important technical aid and central service facilities. It is almost certain that these and similar technology intensive industries could not have been established or operated as effectively had they not been set up in estates.

The Government of India is well aware of the weaknesses in the programme, which have been due to a too rapid expansion. Some, such as poorly selected locations, may also have been due to political pressures, since the industrial estate is an attractive means for a politician to show what he is doing for his constituents. Certainly in the past a number of estates were launched without proper feasibility studies and market research. This is now over; there is a trend towards increased specialisation, as in the estates mentioned above, and towards greater selectiveness in the acceptance of entrepreneurs.

It is very difficult to separate out the effectiveness of the industrial estates programme from that of the small industry programme as a whole. Its costs are clearly high - the figures for expenditure and costs certainly understate the amount of resources which have been devoted - but it is likely to remain in the forefront of small industry development and can profitably be used as a stimulus to industrialisation, although it is doubtful if it is a catalyst on its own.<sup>2</sup>

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<sup>1</sup> India Report, Section 3, p. 22 et seq.

<sup>2</sup> " " , see Conclusions, pp. 31-33.

(c) Malaysia

The industrialisation of Malaysia has proceeded very fast in the last decade. Statistics from the Manufacturing Census, 1970 show that in the five years 1966-1970, gross sales of manufactured goods rose by 81 per cent, employment rose 81.5 per cent, the number of establishments rose by 12.7 per cent and the average employment per establishment by 66 per cent.<sup>1</sup> Exports of manufactured goods rose roughly in parallel with the increase in gross sales, but between 1973 and 1974, a period not covered by the above figures, exports rose in absolute terms from 525 million Malaysian Dollars, (M\$), to M \$ 10,189 million, an increase of 1800 per cent!<sup>2</sup>

This rapid increase in industrialisation and the recent even more rapid increase in manufactured exports has resulted from a single minded drive on the part of the Federal and State Governments to promote industrialisation. It is not only seen as a means of reducing dependence on primary commodities but to be essential for the reduction of disparities in regional development and a more equitable distribution of incomes.<sup>3</sup> It is also seen as a means of bringing more Malays into manufacture and commerce.<sup>4</sup>

Industrial estates have been and are a key element in the furtherance of this policy. The first industrial estate was set up in Petaling Jaya, some 15 miles from Kuala Lumpur, primarily to provide work for relocated squatters, in 1952. After three years only six acres had been taken out of 300 allocated. In 1957 the Federal Government initiated its "Incentives to Industry" policy. This was so successful in getting industrialists out to the estate that the original 300 acres proved inadequate and a further 400 were allocated. By the end of 1966 there were 264 factories, 43 in pioneer industries, providing work for 10,000.<sup>5</sup>

The Federal Industrial Development Authority, (FIDA), was

<sup>1</sup> UNIDO: Evaluation Report on Industrial Estates No. 9 - Malaysia.  
IDWG 231/8. p. 11, Table V.

<sup>2</sup> Malaysia Report, op. cit. p.12. In 1973-74 US \$ 1 = M \$ 2.54 later 2.40

<sup>3</sup> " " , p. 20. <sup>4</sup> Malaysia Report, p. 15.

<sup>5</sup> " " , p. 20.

created for the purpose of promoting and controlling the development of industrial estates and to promote industrial development in general.<sup>1</sup>

The success of the Petaling Jaya Estate promoted the setting up of a series of State Economic Development Corporations, (SEDCs), of which there are now 12, for the construction of estates. Since 1975, all matters connected with industrial estates have to be channelled through FIDA.<sup>2</sup>

The Government launched a massive campaign, backed by a system of liberal fiscal incentives to attract new industries. FIDA was responsible for ensuring that industrial estates were only built where labour and essential services could be provided. Since measures of success were increased employment and the development of new skills, the prime aim was to attract medium and large scale enterprises. Little or no attention was paid to small scale industry.<sup>3</sup>

Loans on easy terms were made available to the SEDCs to construct industrial estates. At first one or two of the wealthier estates proceeded on their own.

There are now 59 industrial estates including seven free trade zones. Employment in 1972, excluding handicrafts, is given as 206, 127, of whom 173,700, (84 per cent), are estimated to be on industrial estates.<sup>4</sup> The consultant has calculated that, when all the estates under construction are completed and all the factories occupied, something likely to take many years, employment will rise to nearly 310,000.<sup>5</sup> At present, (September, 1976), the total number of factory plots, (leasable area), amount to 9,240 acres, of which 6,750 acres have been allocated. It is intended to increase the total area by another 9,500 acres under the Third Malaysian Plan, but about a quarter of the existing land still has to be disposed of.<sup>6</sup>

<sup>1</sup> Malaysia Report, p. 21.

<sup>2</sup> " " , p. 21.

<sup>3</sup> " " , p. 21.

<sup>4</sup> Malaysia Report, p. 18, Table X, etc. See p. 18 for estimate of employment.

<sup>5</sup> Appendix II.

<sup>6</sup> Malaysia Report, p. 25.

Of the 59 estates, 41 are located on the western side of the peninsula, 8 on the east side and 10 in East Malaysia. The west is the most developed part of the country, but under the Third Plan the less industrially advanced States will have priority.

The Malaysian Report gives extensive details of the programme and its social and economic background. It appears to have been successful in attracting industry through a combination of factors. The liberal system of fiscal incentives has attracted industry which might have settled elsewhere. The estates designers have maximised the leasable areas and eliminated inessentials. The general policy of providing only prepared and serviced land instead of land and buildings has allowed the rate of development to be maintained in keeping with the foreseen demand, thereby reducing unproductive investment and creating cheaper plots. The time taken to have an estate ready to receive tenants is usually one year from the date of the acquisition of the land.

Prepared land on industrial estates is cheaper than equivalent land in private hands and the fact that it is available at short notice and with minimal formalities is a major attraction for industrialists. Free trade zones and abundant cheap labour by the standards of industrialised countries are obvious inducements, particularly to export oriented assembly industries.

The estates have no central facilities or amenities other than the basic services and, in the free trade zones, peripheral fences and security guards, but provision is made for worker housing where estates are not near towns.

The Government does not regard the creation of the estates as an investment in real estate development from which a direct profit is to be derived, but the consultant believes that a profit is made.<sup>1</sup>

Other aspects of the Malaysian industrial estate programme are discussed in the appropriate sections below.

<sup>1</sup> Malaysian Report, p. 39 et seq. Conclusions, for most of the above data.

(d) Nepal

Nepal is in the very early stages of industrialisation. In the fiscal year 1973-74, the contribution of manufacturing to the GDP was only three per cent, exclusive of cottage industries.<sup>1</sup>

The number of manufacturing establishments in 1972-73, (Census of Manufacturing Establishments), was 2,434, providing employment for 47,638. However, 1,860 of these were in rice milling and oil expressing employing 18,909 persons. Out of the 2,434 listed, 875 or about 36 per cent were temporarily or permanently closed down, a large number for lack of raw materials. Disputes in partnerships appear to be another major cause.<sup>2</sup>

In 1972-73 the industrial estates accounted for 2,336 employed out of the total of 47,638, or about five per cent.<sup>3</sup> If the rice milling and oil enterprises are excluded - not many are on the estates - the percentage becomes eight.

There are seven industrial estates of which one is not yet operational and one more is in the planning stage. Two estates, Balaju and Hetaudi were developed with US assistance. The Indian Cooperation Mission aided in the construction of all the others. The Balaju Estate was intended for small and medium industry, the Hetaudi Estate for medium and large units and the Patan Estate, five kilometres from Kathmandu, in an area rich in woodcarvers and metalworkers, to promote small scale and cottage industries. In the event, industries of mixed sizes are to be found in all three.

Under the New Economic Policy, 1974, the Government proclaimed a series of objectives of the type common to most countries at this stage of development, namely, increasing and improving industrial production, creating industrial employment, mobilising local capital and skills, achieving self-reliance in essential goods and construction materials and minimising regional imbalances. The tools to attain these goals are industrial estates, loans and financial incentives.<sup>4</sup>

<sup>1</sup> UNIDO: Evaluation of Industrial Estates No. 10 - Nepal, ID/WG 231/9 p. 7.

<sup>2</sup> Nepal Report, p. 9. <sup>3</sup> Nepal Report, p. 15. <sup>4</sup> Nepal Report, p. 12.

The six industrial estates in operation have planned total capacity of 251 establishments. At the moment only 114 are in existence. Only Balaju and Patan have reasonably high occupation rates, (44/50 and 34/38 respectively). Investment in the three main estates, (Balaju, Hetaudi and Patan), to 1973-74 is 26,656,451 rupees.<sup>1</sup> This works out at 9,578 rupees for each of the 2,783 employees in 1974.<sup>2</sup>

The incentives and benefits allowed to firms moving on to the industrial estates are substantial and include loans to industrialists of up to 95 per cent of fixed assets, various tax remissions and holidays and a differential interest rate on the loans. All the estates have administration buildings in addition to prepared and serviced plots and some estates have varying additional central facilities and amenities. Lessees of plots may build their own buildings, subject to approval, or the administration may construct and lease workshops.

The growth of the programme has been slow. Balaju, Hetaudi and Patan were established in 1960-63 and Hetaudi is still only one third occupied. Employment has remained practically static for two years, (1974-75), but there is said to be a move to take up places and Balaju has a waiting list.

The output of the firms on Balaju and Patan is sometimes higher and some times lower than equivalent firms outside. It seems that in the bigger firms it is higher, but the output per capita does not entirely conform.<sup>3</sup> There is no indication to suggest that firms on estates have better performance than those outside and the estates may be supporting enterprises which would not otherwise survive. The failure rate on the estates is high but less than the national average.

Most of the firms are new and the cost of setting up a new factory on an estate is less than that of establishing the same facilities elsewhere. Indeed, sites with adequate supplies of

<sup>1</sup> Nepal Report, p. 13, Table II.

<sup>3</sup> Nepal Report, p.16, Table III.

<sup>2</sup> " " , see table on p. 15.

water and electricity outside the industrial estates may be difficult to find. The industrial estate programme has been essential to the establishment of new ventures which, but for its existence, would not have come into being and, therefore, for increasing the level of industrial employment.

(●) Pakistan

Pakistan has been dealt with at length in the First Report, but not from the standpoint of promoting industrial development.

11 small industry estates, two of them very small, have been established between the years 1960 and 1965. Five large industry estates have also been established, the first in Karachi in 1948.

After the Partition from India in 1947, the new state was left with practically no industry. Karachi, a town of around 300,000, found its population swollen overnight to around two million. The estate was set up by means of Government loans, its development phased over 20 years at a cost of 33 million rupees.<sup>1</sup> By 1962 it was reported to have firms employing 50,000 and by 1969, with 672 firms in production, employment was expected to reach 100,000.<sup>2</sup> Unfortunately it was not studied in the course of the UNIDO study mission. In 1971-72 employment in large industries was estimated at 300,000, so this estate alone must have contributed anything up to one third of the total employment.<sup>3</sup> Employment in the other large industry estates is not known, but after 1965 the programme slowed up for lack of foreign exchange.

The small industry estates have not proved nearly as successful. There are rather conflicting statistics about the occupation of the six estates in the Punjab, because a number of firms said to have gone out of business are said to be included in the totals.<sup>4</sup> According to the official figures there were in 1975 398 units on the Punjab estates and 56 in three others, with figures for the remaining two not available.<sup>5</sup> Three estates in Punjab, Gujranwala, Sialkot and

<sup>1</sup> UNIDO: Evaluation Report on Industrial Estates No. 4 - Pakistan ID/WG 231/4. p. 13.

<sup>2</sup> UN Report, op. cit. p. 298 et seq.

<sup>3</sup> Pakistan Report, p. 5, Table 1.

<sup>4</sup> Pakistan Report, p.28

<sup>5</sup> " " , p. 29, Table 11.



Gujrat. The first two have occupancy rates of about 100 per cent. Most of the industries established on them in the middle sixties were new. Gujranwala and Sialkot are traditional areas of specialised small industries, Sialkot being a major exporter of sports goods and surgical instruments. Both estates benefitted from liberal access to foreign exchange loans and both have specialised technical institutes located on the estates. Occupancy at Gujrat has come up in the last three years; before that it was very low. Many firms on it specialise in the manufacture of electric fans. The other estates have an occupancy rate of about 26 per cent or below.<sup>1</sup>

The estimated employment in small scale industry estates totals 8,000.<sup>2</sup> Planned investment for sanctioned units on the Punjab estates is 12,600 rupees per employee, but this is based on a figure of 11,000 employed, which the consultant considers too high.<sup>3</sup> On the basis of figures in the Report, output per worker per annum on the estates is somewhere between 8,750 and 12,500 rupees, while that for small scale industries as a whole on the basis of a workforce of 2 million is only between 750 and 1,000 rupees per annum, but the figure seems very doubtful.<sup>4</sup>

In addition, those firms on industrial estates receiving foreign exchange loans are heavily in arrears with their repayments. Enterprises are also in arrears with their plot costs and quite a large number refuse to pay the maintenance charges.<sup>5</sup> The estates have absorbed financial resources and planning resources incommensurate with their role in industrial development in Pakistan to date.<sup>6</sup>

(f) Senegal

Senegal is one of the countries discussed in the First Report and included here because it represents a country industrialising ab initio and using an industrial estate as a forcing house for new entrepreneurs.

<sup>1</sup> Pakistan Report, p. 27 Table 10.

<sup>2</sup> " " , p. 30 for discussion on difficulties of estimating employment.

<sup>3</sup> " " , p. 42, Table 10.

<sup>5</sup> Pakistan Report, p. 36.

<sup>4</sup> " " , p. 6 Table 2.

<sup>6</sup> " " , p. 41.

The only estate operating at the time of the study was the Thies Estate, initiated in 1967. Nine firms were on the estate employing 138 workers, the investment so far having been the equivalent of US \$ 296,480 with an addition of \$ 43,750 in international funds.<sup>1</sup> Five of the firms have proved able to benefit from the aid and tuition in management and technology which they have received and are making satisfactory profits, although they are very dependent on Government orders. The remaining four are in poor condition.<sup>2</sup>

The Thies Estate must be regarded as an experiment and it has proved that artisans can be developed into industrialists with proper conditions and technical and managerial assistance. However, the amount of "nursing" which has been provided has proved very expensive and would be prohibitive if extended on a large scale.

Four other estates, including one free zone at Dakar, are either under construction or being planned.

(g) Shri Lanka

The growth of industrial production in Shri Lanka has been steady, if unspectacular until 1975, when there was a significant increase, possibly as much as 16 per cent, on the 1974 figures.<sup>3</sup> In 1975 there were, according to a survey made by the Central Bank of Ceylon, 1,489 manufacturing enterprises employing 107,944 persons and producing goods worth 5,966.6 million rupees.<sup>4</sup> There has recently been some falling off in performance due to scarcity of foreign exchange cutting off supplies of raw materials. The per capita output was 55,274 rupees. The total number of firms registered by the Ministry of Industries and Scientific Affairs is 3,376, including those more important firms noted above. Most of these are small firms within the Government's definition of the term and there are in addition, probably another 2,000 unregistered, apart from handicrafts establishments.<sup>5</sup>

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<sup>1</sup> UNIDO: Evaluation Report on Industrial Estates No. 5 - Senegal, ID/WG 231/5. p. p. 6 and First Report, p. 62, Table 12.

<sup>2</sup> First Report, p. 63.

<sup>3</sup> UNIDO: Evaluation Report on Industrial Estates No.11 - Shri Lanka, ID/WG 231/13, p.

<sup>4</sup> Shri Lanka Report, p.

<sup>5</sup> Ibid. p.

There are at present three industrial estates in Shri Lanka. Of these the Ekala Estate near Colombo is fully operational and occupied and that at Pallakelle, near Kandy, 80 per cent occupied. The third estate in the extreme north of the island, is only just getting under way. However, only eight of the 27 buildings occupied at Pallakelle are leased to private industry, the others being occupied by Government and other public organisations.<sup>1</sup>

The total number of units occupied or allocated is 84, taken by 39 firms or other bodies. Total employment is 2,199 and production valued at 71.21 million rupees.<sup>2</sup> Per capita output is thus 32,382 rupees per annum, considerably lower than for industry as a whole. The industrial estates provide accommodation for 2.6 per cent of the major firms, two per cent of the manufacturing employment and 1.12 per cent of the production. On this basis the industrial estates cannot yet be considered to have contributed much to the industrialisation of Shri Lanka.

(h) Turkey

The case of Turkey has been dealt with extensively in the First Report. It is unnecessary to go into detail here.

Action in setting up industrial estates started with Government initiative in 1963 and moved fairly slowly at first, but by 1966-67 it had accelerated considerably and has maintained an average of seven new submissions for approval of new estates every year.<sup>3</sup> At the time of the study there were 28 estates operational, 44 under construction and 13 under consideration.

The distinctive feature of this programme is that it is generated by the industrialists themselves. Most of the estates in Western Anatolia, the most developed part of the country, are of the "dispersal" type. Conditions in the cities are so bad and premises so cramped that many industrialists are eager to get out and the municipal authorities are happy to help them by placing land at the disposal of estates at low prices. Government contributions are only

<sup>1</sup> Shri Lanka Report, p. 10 et seq.

<sup>2</sup> " " " , p. 12.

<sup>3</sup> UNIDO: Evaluation Report on Industrial Estates No. 1 - Turkey ID/WG 231/1

in the form of loans at low interest for buildings. Land must be purchased by the executing agencies, usually cooperatives of industrialists, infrastructure construction and purchase of machinery may be financed by bank loans. Some cooperatives do not even approach the Government for aid. The Government provides technical advice on the setting up and construction.

Most of the estates operational to date are west of a line from Samsun in the north to Gaziantep in the south. The eastern half of the country is much poorer and the Government is trying to promote estates there for developmental reasons.

The proportion of the small scale industry workforce at present employed in firms on industrial estates is still fairly small, but it is growing fast and when all the estates at present under construction and planned come into operation, (normally all firms move on as soon as an estate is completed), it should represent a significant proportion. On most of the estates visited it was estimated that the average firm had at least doubled its workforce and its turnover within two years of moving in. Some had done much better. The success of the small industries industrial estates programme has led larger industrialists to emulate it and industrial areas for larger industries are now being established.

The industrial estates programme in Turkey appears to be succeeding and contributing both to increased industrial production and employment. There may be a number of special factors to account for the success, one of them being the number of Turkish workers and artisans who work in Western Europe and return with some capital and improved skills. The programme costs the Government nothing, apart from maintaining a central administrative and advisory service, which is quite small. Loans repaid and interest are used to make further loans.

Conclusions on the Contribution of industrial Estates to the  
general Objectives of the Programmes in the Countries visited

- (1) In all the countries visited, except Malaysia, the number of firms on industrial estates and the total output forms a small, sometimes insignificant proportion of the total number of enterprises in the small industry sector and of the total industrial output. In Turkey this proportion begin to be significant within the next year or two.
- (2) Again with the exception of Malaysia, the numbers employed on industrial estates are still a small proportion of total industrial employment. In Turkey this is likely to change in the near future.
- (3) Such evidence as there is on the contribution of estates to the decentralisation of industry into rural or backward areas seems rather negative, but needs further investigation.
- (4) Such evidence as there is does not support the view that firms on industrial estates have a higher productivity or efficiency than those outside. For India and Shri Lanka the overall figures suggest that firms on industrial estates are less efficient, with the exception, in India, of some of the high technology estates. In Nepal the evidence is inconclusive. Small firms on estates in Pakistan seem to have a much higher productivity, but the figures need reexamination.
- (5) In India, estates seem to be proving very successful for the promotion of specific industrial sectors and special groups of entrepreneurs.
- (6) In Turkey, industrial estates are, for the most part, specifically concerned with removal of small firms from the cities and in this they have been conspicuously successful. Evidence from elsewhere is less conclusive; in Pakistan it appears to be largely negative.

2. Alternative Means of promoting Industrialisation and its Objectives

If industrial estates are not necessarily the best way of promoting industrialisation rapidly and of achieving the related objectives economically under all conditions, what are the alternatives?

This question was not in the original terms of reference of the study, but it seems difficult to take a critical view of industrial estate programmes without looking briefly at the alternatives. They seem to boil down to three:

- (a) Complete nationalisation of all the means of production and, possibly, of distribution, with centralised planning and direction of all economic and social development.
- (b) The maintenance of an important private industrial sector with substantial intervention and aid from government, including concessions, protection for specified industries, extension and training services but without government establishing industrial estates.
- (c) Complete disinterest on the part of government towards the private sector of industry except as regards legislation.

Case (c) is so rare today as to be not worth discussing. Discussion below is therefore limited to (a) and (b).

(a) Nationalisation of Industry with centralised Planning and Direction

This is the system adopted by all the Socialist countries of Eastern Europe and certain others, including Cuba, the subject of a report in this series of studies,<sup>1</sup> which is examined briefly here without consideration of any political implications. The reader is referred to the report for further details.

The Republic of Cuba is a socialist state operating on a base formed by a conjunction of Government departments and State enterprises. Private property is only to be found today in agriculture and there it is very circumscribed. One of the key features of all socialist planning is that it is highly integrated, that is, in any one period plan, usually five yearly, a balance is maintained in the development of each economic and social sector with a high degree of interdependence between sectors. For example, agro-industrial development is linked directly with the development of agriculture, basic materials are produced in variety and quantities to meet the planned outputs of the manufacturing sector and technological education is linked directly to the development of technologically advanced industries. This is the result of carefully developed policies. As one set of goals is achieved, priorities change. Thus, in Cuba, in the Five Year Plan for 1976-80, the past emphasis on the creation of a physical and social infrastructure and the modernisation of agriculture has yielded priority to industrial development. In this sector a balance is being struck between agro-industries, including the manufacture of agricultural machinery, construction materials and consumer goods to absorb some of the increased purchasing power of the population.<sup>2</sup>

The strategy of industrial development includes:

- (1) decentralisation of industry away from the capital and distribution through the 14 provinces;
- (2) extensive mechanisation and automation of the production process to offset the increasing shortage of labour.

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<sup>1</sup> UNIDO: Evaluation Report on Industrial Estates No. 2 - Cuba, ID/WG 231/2.

<sup>2</sup> Cuban Report, p. 7.

This preoccupation has led to emphasis being placed on large plants and to the gradual merger of former privately owned small firms into much larger units. Smaller production units continue to exist where they have to be near the consumer, (bakeries, ice plants), or where the demand does not justify a large unit, but small scale industries as such have disappeared and there is not even an official definition of small scale industry.

Industrial plants are set up and operated by state owned enterprises. Industrial projects must be submitted to the National Planning Board for approval and allocation of a priority. If approved they are subjected to rigorous technical and economic scrutiny for their feasibility, both economically and technologically.

Industrial ~~estates~~ as such do not exist, but industrial zones have been developed to provide the necessary physical infrastructure and facilities, including the social amenities which are an integral part of all industrial projects. Two measures have been adopted:

- (1) The creation of industrial zones in the areas selected as development poles.
- (2) Concentration of industrial production by means of vertical or horizontal complexes based, sometimes, on nearness to raw material sources. One or more of these complexes may be included in an industrial zone.

The grouping of plants is for economy and efficiency and for ecological reasons. All complexes have extensive social facilities such as central kitchens and canteens, nurseries, medical centres and social clubs. In most socialist countries, social life tends to be more closely linked with the enterprise than elsewhere.

The industrial zones, as such, have had a negligible effect on industrial development since they are the result of decisions to establish certain plants and put them in a certain locality and not the reason for their choosing to be there. The annual growth rate of Cuban



industry from 1970 to 1975 averages 7.7 per cent, with individual sectors having rates varying from 2.3 per cent, (mining), to 30.1 per cent, (construction materials). Only sugar processing declined somewhat.

Quite clearly, under conditions where the Government controls all the finances of the country, industrialisation can proceed at the pace which the Government decides can be sustained, taking into consideration factors such as the availability of foreign exchange, (for the purchase of equipment and certain raw materials), and other sectors competing for funds. Since regional development is an integral part of overall development, it will be decided centrally where industry will be located, subject, of course, to overriding technical and economic considerations such as proximity to raw materials or ports. No meaningful estimates can be given of costs and benefits, since they are not subject to the same direct criteria as in non-centrally planned economies.

(b) Private Sector Industry aided by Government without government-sponsored industrial Estates

This is the real alternative for most developing countries and is the current situation in many, including several of those visited. The choice between this and a substantial programme of state-aided industrial estates is what this Study is primarily about.

In certain countries visited, India included, the Government already gives substantial benefits and aid to small industry as a whole. The benefits offered to firms moving on to industrial estates are often marginal, except for those it is sought to attract to rural or backward areas. The Small Industries Service Institutes in India certainly service many more firms outside estates than they do firms on estates. A large majority of the **estates seen in the course** of the study missions did not have central services beyond the basic infrastructure.

The fact is that most countries have been progressing without industrial estates and the question which is to be answered here is whether they would have progressed or would progress any faster or with

greater economy of resources if estates were established on a large scale. One answer may be the encouragement of estates sponsored and paid for by groups of industrialists on the Turkish pattern, for which governments may provide loans and extension services but in which they will not directly invest public money. The mere establishment of estates through the action of the industrialists themselves ensures that places will be filled and that those participating are convinced that they will be of direct benefit. They will therefore be the more determined to get full value out of them.

If need be, governments can always direct industry into certain regions or make its establishment difficult in certain others. Without the use of compulsory legislation, they can make the incentives to locate in specific regions so attractive that new or expanding industries will be glad to comply. This is done in the United Kingdom and some other European countries.

#### Conclusions

The first alternative may have merits for developing countries, but it is dependent on political decisions which are outside the scope of this study. The second alternative already exists in many countries. It may involve a lesser expenditure of public funds than one involving government financed estates, although the loss of revenue due to tax and other concessions may become considerable. Whether it is more or less efficient as a means of promoting rapid industrialisation and overall economic development must depend to a large extent on conditions in individual countries.

## II. FACTORS INFLUENCING THE SUCCESS OF INDUSTRIAL ESTATES

### Introduction

In the First Report the factors influencing the success of industrial estates were examined briefly in Chapter V. What is added here consists mainly of modifications to the original statements arising from ideas emerging in the course of the second phase studies with some additions which are now seen as important.

Before going into the subject, it should be noted that in trying to make assessments of the "success" of estates, some consultants, including the present writer, have tended to equate success with rate of occupancy, that is, the extent to which the estates have been accepted by industrialists. It is certainly true that no programme can succeed if the estates are not occupied but at the same time, occupancy is not an end in itself. The broader national objectives and the extent to which they are fulfilled are the true criteria of success. This has been discussed in Chapter I and other aspects are discussed in Chapter III. The factors discussed in this chapter are therefore those which attract industry in the first place and enable it to be efficient - hopefully more efficient than it would have been outside - and thus in the long run fulfil the national aims and at the same time benefit consumers by providing better and cheaper products and services.

The factors reexamined below are those identified in the First Report with the addition of three more, namely:

- The preconditions necessary to the establishment of a successful industrial estates programme.
- The extent to which a selection has been made from among entrepreneurs seeking places and from among firms so as to ensure the acceptance of the more enterprising and a degree of homogeneity, primarily for government sponsored estates.

- In the case of small industry estates, the extent to which central and extension services are provided, especially in the least developed countries in the early years.

This last item is to some extent an amplification in more precise terms of the item on government support, (Item 6). The pre-conditions are dealt with as a separate section; other factors retain their original item numbers.

1. The Pre-conditions to establishing industrial Estate Programmes

This factor applies particularly to the least developed countries. It is considered here with special regard to the conditions in Sudan, where no programme has yet been launched. The minimum pre-conditions necessary in the small scale industry sector to offer a reasonable chance of success in contributing to economic and social development appear to be:

- (1) Centres of population with sufficient purchasing power to provide markets for a diversity of products and services capable of being supplied by a substantial number of small firms and artisan industries.
- (2) The existence of a large number of small firms and artisan workshops with substantial numbers in selected industrial sectors.
- (3) An actual and potential supply of entrepreneurs able and willing to take advantage of the facilities and benefits offered by industrial estates.
- (4) A nucleus of skilled workers and workers who can be trained with the facilities provided.
- (5) Conditions in cities and towns such that industry is hampered by its working conditions and cannot easily expand its production.
- (6) Clear cut and consistent concepts and policies on the part of the government on what the estates are expected to achieve and willingness to provide the incentives necessary to further these aims.
- (7) Appropriate government institutions able to undertake the planning and implementation of the programme, together with the financial institutions necessary to provide loans and credits.
- (8) An adequate physical infra-structure in terms of water, electricity and physical communications, at least within the region to be served by the estates.

- (10) Adequately qualified staff with training and experience in industrial estate promotion and management and technical staff able to operate the extension services.
- (11) Facilities through trained staff or with external aid for selecting candidates for places.

Some of these points are raised with respect to conditions in Sudan in the report on that country.<sup>1</sup> The findings will only be summarised here.

Sudan has three areas with important populations, although they are somewhat cut off from one another and from the sea by poor communications. They are the richer areas and appear to have sufficient purchasing power to sustain quite a large number of small industries, as well as a few large ones. There appear to be many small entrepreneurs capable of development under the right conditions and a workforce with basic skills, capable of accepting advanced training. The conditions described in the report in which the small firms and artisans are working are for the most part very bad; many expressed the desire to move out if workshops could be provided at reasonable cost.

The Government has not yet evolved clear cut ideas on what it expects from industrial estates but is interested in exploring the matter further. It already offers substantial incentives to small industries. Additional incentives to move on to estates would probably be provided by the possibility of expansion at low cost and the prospect of substantial services. Substantial financial institutions already exist and there is a government structure which could plan and direct the implementation of the programme.

There is a nucleus of well qualified administrative and technical personnel but they would probably need to be sent abroad for specialised training.

It is the consultant's view, supported by previous survey missions, that Sudan is ready for a small industrial estates programme, initially with one pilot estate.<sup>2</sup>

<sup>1</sup> UNIDO: Evaluation Report on Industrial Estates No. 12 - Sudan  
ID/WG 231/ pp. 14 - 16.

<sup>2</sup> Ibid. p. 10.

2. Factors influencing Success

(1) The Objectives of the Programme

The importance of defining the objectives of an industrial estate programme and of orienting all incentive and other actions towards the achievement of those objectives emerges more clearly than ever in the second phase. The successful programme in Malaysia has been due to the Government's tailoring of its programme to the realities of the situation and setting up incentives which have been consistent with those objectives. The Argentine Government, on the other hand, while having fulfilled one part of the requirement, the need to undertake substantial feasibility studies before determining whether those objectives can be fulfilled, has, in the main, not pursued its campaign further. This has been in major part due to recent changes in government both federally and in the provinces, which have caused the programme to rise and fall in priority. The result has been, as in Santa F<sup>e</sup> Province, considerable delays in proceeding with the programme.<sup>1</sup> On the other hand, the Provincial Government of Chubut in its determination to attract immigrants to the province and to use industrial estates as a means of doing so, is proving successful, notably in the case of the Trelew Estate.<sup>2</sup>

The Indian Government's programme is so large that universal success cannot be expected. In the case of the estates specifically designed to promote technology intensive industries and groups with special technical qualifications, there is evidence that all the necessary steps have been taken and that these estates are proving highly successful in furthering the objective.<sup>3</sup> In a modest way the Nepalese Government is achieving its aims, although hampered by factors not directly within its control. The Karachi Estate in Pakistan was cited in the First Report; the small industry estates seem to have been less successful because the policies have not been entirely clear and the necessary preliminary studies do not seem to have been made in sufficient depth.

<sup>1</sup> Argentine Report, p. 23.

<sup>3</sup> India Report, p. 23 et seq.

<sup>2</sup> " " , p. 33.

It must be stressed that the discussion of this item centres round those set up by public authorities in free enterprise or mixed economies where firms have the choice of moving or not moving on to an estate. In centrally controlled economies such as Cuba the question does not arise, except to the extent that a policy itself may prove faulty and an industrial zone established in an unsuitable location prove to be unduly expensive and possibly inefficient.

(2) Volume and Nature of national and local economic Activity

Little can be added on this very obvious point. Industrial estates will not succeed in conditions where normally well conducted industry will not succeed, that is, where national or local purchasing power is insufficient to sustain the increases in production which an industrial estate might be expected to generate. Under these conditions an artisan estate might succeed but not one involving industry with a high production capacity, hence the importance of prior economic studies. On the other hand, in an advanced economy such as Argentina, where there is substantial purchasing power and the people are consumption oriented, an estate can be set up a long way from main markets and material sources and still succeed because the advantages offered to industry offset the disadvantage of distance and the volume of production is such that economical arrangements can be made for transport, especially where the raw materials and products are light in weight and high in value. In Nigeria there is a surge in consumer demand and abundant entrepreneurial talent in need of canalisation into modern industrial channels, which suggests that a substantial programme of industrial estates for small and medium industry would be very successful.

None of the countries studied, including Sudan and Senegal, is too small or has too small a potential market not to be able to sustain successfully a small programme of industrial estates.

(3) National Characteristics, social and cultural Patterns

This rather neglected aspect of the subject was only discussed briefly in the First Report, (pp. 107 - 108). It seems to have been ignored in most publications on industrial estates in favour of economic and technical factors. It is, perhaps, a delicate subject which merits further study.

In the First Report seven elements were distinguished. The setting up of estates which are to incorporate extensive central and cooperative services demands a high degree of cooperation and mutual trust, features which are functions of elements (a), (b) and (c). The existence of these features in Turkish society was noted. In some other countries, including Argentina, consultants were told locally that small industrialists did not have a history of cooperation. Nevertheless, it seems that this can be changed. In the Santa F  Province and particularly in Rosario, it was said that the fact of having had to work together for a long time to get the estates set up had already broken down many barriers and had already led to some commercial and technical cooperation. Quite elaborate plans had been made for more extensive collaboration once the estates were in operation.<sup>1</sup>

Element (e), "traditions of craftsmanship, industry and commerce" is obviously a key one. In Malaysia the Chinese community has a strong commercial tradition, as well as one for cooperating closely within itself. In 1973 the Chinese accounted for 92 per cent of the ownership of fixed assets in the non-corporate sector of industry.<sup>2</sup> They also have a high respect for education. [Element (f)]. Chinese family firms often sent family members en bloc to the management training courses held by the ILO in the beginning of the sixties, each taking a course in his or her special field.<sup>3</sup> Too much should not be made of this. The consultant in Malaysia notes that the non-participation of Malays in industry and commerce in the past has its roots in the colonial era and that more of the younger generation are now going into business.<sup>4</sup>

<sup>1</sup> Argentine report, p. 74.

<sup>2</sup> Malaysia Report, pp. 12 - 15

<sup>3</sup> Comment by the Editor

<sup>4</sup> Malaysia Report, p. 15.



In Nigeria the Hausa people have a very old trading tradition and are now beginning to move into industry, especially at Kano in the north. No industrial estates exist there at present, there are industrial zones with infrastructure and subsidised rentals. There is no **evidence** of inter-firm cooperation. The Hausa people have the reputation for initiative, but it takes time to transfer a capacity for initiative on one field, such as commerce, to industrial and technical fields. The consultant was informed that the older generation, even of wealthy traders, **often had little** formal education. This has now changed and the younger generation is being sent to acquire higher technical education.<sup>1</sup>

Entrepreneurial capacity is something different from technical or even managerial knowledge and skill. It is notable that in all countries, industrialised as well as less industrialised, men able to take remarkable technical initiatives **may be quite inept** when it come to commercialising the results. A combination of skills is needed for industrial success. Above all, there needs to be the capacity to perceive quickly the advantages of a new development, such as an industrial estate.

(4) How far an industrial Estate meets perceived needs

The second phase studies all re-emphasise the importance of this factor. If the value of an industrial estate is not seen to correspond to the needs of an industrialist as he sees them, he will not move on to it.

Very few people recognise and accept a new idea when it is first presented to them, whatever its intrinsic merits. This is as true of industrialists as of any other group.<sup>2</sup> In Turkey it took very active promotion on the part of the Government to get the estate programme under way.<sup>3</sup> In Santa Fé Province, a few of the more forward-looking industrialists in each town had to work on their colleagues, sometimes with the support of UN experts, to convince them that the proposed estates would be of value to them.<sup>4</sup> Clearly in Ecuador the local

<sup>1</sup> Nigeria Report, p. 7 and comment added by the Editor, who made the study.

<sup>2</sup> As any experienced industrial consultant knows. (Ed.)

<sup>3</sup> First Report, p. 110

<sup>4</sup> Argentine Report, p. 74.

industrialists were not convinced, nor were they in the case of some of the small industry estates in Pakistan.<sup>1</sup> In India the occupancy rate, especially in rural estates, is still rather low. Dr. Somasekhara says that very few firms have been induced to move out of congested cities on to them<sup>2</sup>. Obviously the industrialists already running their businesses, even in congested conditions in cities, could not see enough advantages in moving out to estates to offset the inevitable expenses and other factors. New industrialists were not attracted in sufficient numbers because they felt that they could do better elsewhere.

There is one important factor with regard to estates in rural and backward areas which seems to have been overlooked. In the economically developed countries the countryside can be quite a pleasant place to live. Small country towns have most of the amenities of the bigger ones, including shops and schools and some active social and cultural life, with the advantage that stress conditions are much less than in big cities. In Argentina the smaller towns visited by the consultant were very pleasant places with one or two good hotels, **restaurants**, adequate shops for normal needs and some cultural activities. Trelew, isolated though it was geographically, was an attractive small town and the surrounding region was attractive. Many professional men from Buenos Aires were seeking to bring their families there.

The difference between town and country in most developing countries is enormous. Villages and even towns may lack most modern amenities. The difficulties of getting professional men such as doctors and civil servants to serve in remote areas are common to all developing countries and pose real problems. This happens even in certain European countries. It is understandable that entrepreneurs operating in cities, even in difficult conditions, may be reluctant to move into country towns and their wives even more so. Furthermore, for the man who wants his children to rise in the world, there are likely to be serious problems of schooling and few children with whom they may be able to make friends, if only because of differences in

<sup>1</sup> First Report, p. 59

<sup>2</sup> Somasekhara, op. cit.

wealth. This may well explain why entrepreneurs do not move, apart from business factors.

Few governments give major concessions to firms on industrial estates not already granted to small firms generally, exceptions being the Argentine and Malaysian Governments.

The manager of the Oks and Pilar commercial estates near Buenos Aires suggested that one factor which appealed to firms was the saving in time by moving on to an industrial area where all the infrastructure was prepared and no planning permission had to be obtained. He considered that this could mean up to two years in advancing the use of the expanded production facilities as opposed to starting out to buy land and put in an infrastructure, with the bureaucratic delays often involved. Firms in Malaysia and Nepal both appreciated this advantage. It seems likely that estates with substantial central services and technical facilities are more attractive than others but few were seen outside India and two estates in Pakistan, both of which filled up quite early.

(5) Proper Selection of the Location, the Site, Size of the Estate and areas of Buildings or Plots

In the First Report the importance of these factors was noted. In the India Report the consultant stresses with respect to the relatively low occupancy rates in rural estates that "The most common mistakes were poor location decisions....."<sup>1</sup>

The question of location is clearly bound up with the decentralisation policies. The Gulbarga and Ramnagaram Estates in India were set up with the object of decentralising existing or setting up new units away from places of industrial concentration. The Gulbarga Estate remained largely vacant and the three units which had shifted came from the town itself and not, as hoped, from major cities. The same was broadly true at Ramnagaram and at a third estate at Managalore. In no case had units shifted from Bombay, Madras,

<sup>1</sup> India Report, p.15.

Coimbatore, Hyderabad, Bangalore, etc.

In the question of new units, the estates were a little more successful. At Ramnagaram, of seven new units, five had come from Bombay or Bangalore. The study suggested that it is difficult to locate new enterprises in or shift existing enterprises to economically backward or rural areas. The locational disadvantages were insurmountable by the industrial estates alone.<sup>1</sup> (Editor's underlining)

All the evidence suggests that, if it is decided for developmental reasons to locate an estate in a rural or backward area, the authorities must offer incentives sufficient to overcome the disadvantages of the location, including those social disadvantages mentioned in the preceding sub-section, and that these must be apparent to potential members.

There is little to add to the First Report regarding the other factors under this heading.

(6) Appropriate Support by Government and other Authorities

Incentives and benefits have been repeatedly mentioned throughout this report. The studies in the second phase all emphasise the need for full and consistent government support.

The need for clear cut and consistent policies has been stressed in the first item in this Section. The authorities must know what they expect any given estate to achieve. This must be formulated on the basis of adequate preliminary studies and analyses. Once this has been done, the support can be tailored to give maximum impulsion towards those objectives. This has already been extensively discussed in various parts of the report and there are enough examples available not to need further stressing.

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<sup>1</sup> Somasekhara, op. cit. pp. 58-59.

(7) Duration of the Planning and Construction Periods

One of the elements contributing to the success of the Malaysian programme seems to be the speed with which sites are prepared and made available, normally about a year from the purchase of the land. In India, also, the period of planning and construction seems to be short. This tends to confirm the view that this factor appreciated and helps to confirm intentions to move on to an estate.

(8) The Extent to which a Selection of Entrepreneurs and Industries has been made.

This factor did not emerge clearly in the first phase studies. The first element applies most particularly to those small industry and artisan estates established to upgrade small firm performance or establish industries in rural or backward areas. It applies, of course, primarily to estates financed from public funds.

If government money, sometimes in substantial sums, is to be expended on establishing an industrial estate, for whatever purpose, it will have been to some extent misused if firms on the estate fail to develop as foreseen or, as in a number of cases met with, actually fail, unless this is due to external factors common to all industry in that branch, as in the case of the cut-off of raw materials in Nepal.

Dr. Somasekhara's study is the only one presented which compares the performance of firms on industrial estates with those in a control group outside. His findings therefore carry special weight. Apart from noting in the original study made in 1961-62 that key performance factors of firms on the estates compared unfavourably with those of the firms outside, his second study 10 years later showed that, although performance in most of the firms studied earlier had declined, it had declined more among firms on the estates.<sup>1</sup> But the failure rate outside was higher. The firms surviving on the estates were not financially viable; those outside

<sup>1</sup> Somasekhara, op. cit. Foreword p. iii and elsewhere.

were. This suggested that the estates were supporting a number of "lame ducks".<sup>1</sup> These firms survived because they were paying low, subsidised rents, which were often allowed to fall heavily in arrears and enjoying other benefits which eased their financial burdens. This also seems to be the case in Nepal and on the estates at Yaba and Enugu in Nigeria.

This raises a fundamental question as to what a particular estate has been set up to achieve. If it was to provide employment, then there may be some justification for maintaining inefficient firms as a form of unemployment relief. If the intention is to support efficient small industry, then such tolerance is hardly justified.

In any population with a normal distribution there will be a small percentage at one end of the curve who are outstanding in their abilities. They can be counted upon to prosper in the long run without much external intervention. If facilities are provided, they will benefit from them more than most. Thereafter come a percentage of rather more able who, nevertheless, need some support to reach peak performance. Finally there is the mass ranging from competent to incompetent with the hopeless cases at the far end of the curve.

Industrialisation will never be carried through by the "genius" entrepreneurs alone. It needs the very able and a substantial number of the competent to average. Even the less than averagely good may be quite competent craftsmen, even though they may not be very good at running businesses. When it comes to selecting entrepreneurs for places on heavily subsidised and assisted industrial estates, there seems to be a case for choosing those at the upper end of the distribution curve. While the geniuses will be the quickest to take advantage of the facilities, those in the next ten per cent or so may well find that through the aid they receive they can develop to an extent which they would not have been able to do otherwise. There seems to be a strong case for leaving the less competent to

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<sup>1</sup> Somasekhara, op. cit. Concluding Remarks, p. 2.

survive in their own ways, which they are in many cases doing already, and concentrating the facilities and aid offered by an estate on upgrading those who are most likely to profit from them to increase their output and opportunities for offering employment. From the national and possibly the local points of view in the long run and in terms of return on investment, this seems a commonsense course.

The problem of selection then arises. How are the firms most likely to benefit from an estate to be selected from among many small firms, all of them, perhaps, operating under adverse conditions, in cramped premises and comparatively ignorant of modern technological and managerial matters?

Apart from the obvious ways of studying an existing firm's past performance and especially financial records and the reputation of its owner, (part of the procedure for approval of the Turkish estates), is there anyway in which entrepreneurial abilities can be detected, even among those who so far have achieved little, the new entrepreneurs?

It was noted in the section on India that the authorities are now becoming increasingly selective as regards candidates for places, especially in the case of the specialised estates. Interesting work has been done in India since 1971 by the Gujarat Industrial Development Corporation.<sup>1</sup> This corporation in cooperation with two State financial corporations concerned with industrial development have run programmes designed to develop a class of young, new entrepreneurs from among technical graduates and others already employed in industry and business, (sometimes unemployed young engineers), and to encourage them to enter industrial ventures of their own choice as owners rather than as employees.

An extensive and intensive selection process is used to determine the entrepreneurial potential of candidates which lasts several days and culminates in a series of interviews. The rigour of the

<sup>1</sup> GIDC-GIIC-GSFC: Third Report on the Entrepreneurship Development Programme, 31/3/72 Ahmedabad, 1972. (Stencilled)  
The information on this programme and other activities was supplied by Mr. Louis Faoro, UNIDO.

of the selection process is illustrated by the fact that only 55 out of the original 540 candidates were selected to go on to the training programme.

The methods used include modifications of the "achievement motivation" programmes developed by Professor McClelland of Harvard University. His techniques are currently being used in some UNIDO projects, notably in Indonesia, where preliminary results suggest that they are proving quite promising. They have also been used by the ILO in Africa. While not suggesting that candidates for places on estates be necessarily subjected to tests as hard as those carried out in Gujarat, some such tests might weed out the potential failures.

The selection of firms by industry groups seems worthwhile because when a large number of firms from the same branch of industry are grouped on an estate, it is easier and more economical to organise central and common services and technical courses. This has been shown to be the case in India. It also promotes inter-firm contracting, operating to a high degree in the free trade zones in Malaysia and growing in the estates in Turkey where there are large numbers from the same industry. It seems logical but may not be possible on small estates in rural areas.

(9) The Extent of central Services and technical Assistance

These seem to be of special importance on promotional and developmental estates, particularly in the less industrialised countries where experienced industrialists are few. Studies in the second phase as well as that in Senegal in the first phase suggest that where estates are set up as "nursery" estates for the purpose of developing artisans or very small industrialists into fully fledged industrialists, the authorities should spend a great deal of resources in technical and managerial training if the objectives are to be achieved. On both estates seen in Nigeria, Yaba and Enugu, the amount of technical assistance or training supplied seems to have been



quite small. The result has been that several firms have developed very slowly and a few have failed. This may have been due to lack of proper selection, but some might have been helped to survive.

The India Report and Dr. Somasekhara's study both suggest that those estates on which good central facilities, including some common production services, are organised have shown themselves to be more effective, although data on this point are insufficient.

The fact that firms, particularly when there are many from one branch of industry, are grouped on an industrial estate seems to make it logical to supply services which individual units might find expensive and inefficient to run. Although the central workshops at Ahwaz in Iran were not much used, partly because the comparatively few firms on the estate were rather mixed and partly because they were said to be very expensive, those at Gaziantep are extensively used and much appreciated by the firms in the town who will enter the estate.<sup>1</sup>

It may be that a more economical and perhaps more efficient answer would be to encourage and aid private firms to set up the services needed, electroplating, heat treatment, foundries, sawmills, washing and dyeing and the like. Examples were not seen, but this alternative seems worth examining.

#### Conclusions

If a great deal of money, especially public money, is to be invested in an industrial estate, then, as in any other major investment, the promoting and financing agency should study every relevant factor to ensure that these are as favourable as possible to the achievement of the objectives. One of the first tasks is the identification of the conditions in which the estate will have to operate and the adaptation of the various factors to meet them.

### III. OTHER ECONOMIC AND SOME SOCIAL EFFECTS OF INDUSTRIAL ESTATES

#### 1. Indirect economic Effects of industrial Estates

There is not much evidence in the studies about the indirect economic effects of the industrial estates. They seem to be principally of two sorts, first, the increased use of local materials and, second, the promotion of local industry and commerce ancillary to the estates and general stimulation of the local economy.

As regards the use of local raw materials, nowhere except in Malaysia and Nepal was much use reported. In Malaysia, rubber, timber, leather, coconut fibre, coffee, vegetable oils and other agricultural products are among materials used by firms on the estates. Since most of these are new firms, this suggests greatly increased utilisation of the national resources. In Nepal a lot of use is made of local materials including leather, cement and timber. In Trelew wool was washed and combed for export. In Nigeria furniture makers and wood carvers used local timber.

There is not much more evidence either of the stimulation of ancillary economic activities or of the effect of the setting up of an industrial estate on the local economy. Most of the secondary effects seem to be in the service industries, starting at the lowest level with stalls set up at the gates to sell food and small consumer items to the estate workers. Many estates have canteens and restaurants, branches of banks and post offices and occasionally shops, all of which provide some additional employment. It is reported that in Malaysia the estates have given rise to very large numbers of small repair shops working on repair and maintenance for firms on them. Obviously the construction of estates on a scale such as has taken place in India, Malaysia and Turkey has given rise to a great deal of work and employment in the building and related industries, much of the labour being local. In Malaysia, some estates have given rise to complete new towns.

It stands to reason that a large industrial estate with thousands employed will bring additional prosperity to any town, especially a small town. The impact of 3,000 new jobs on a small town like Trelew, Argentina, practically all of which were additional to already full employment, has been considerable. The side effects are also visible there because most of the firms on the estate have their headquarters in Buenos Aires, 1,400 kilometres away and there is a steady coming and going of executives and other head office staff, salesmen, buyers, contractors and others who need hotel accommodation, restaurants and other services and who patronise the local shops.

These same effects would occur with any new concentration of industry but it may be that an industrial estate brings this about more intensively than a slow build up over a long time.

2. Some social Effects on Individuals and the Community

Although the social effects were stated in the original Guidelines as being of special interest, little has been said about them in most of the reports. The fact is that social effects are very difficult to identify and isolate. In most countries industrial estates are essentially "rationalised workplaces" with social considerations secondary or hardly considered at all. In **Malaysia** the strictly functional character of the estates is considered by the industrialists as an attraction, since it reduces the cost.

The social aspects of industrial estates may be grouped as follows:

- (a) the development and upgrading of human skills;
- (b) amenities and common facilities for employees;
- (c) safety and health;
- (d) trade unionism and industrial relations;
- (e) effects on specific groups;
- (f) interaction with the local community.

(a) The Development and Upgrading of human Skills

Industrial estates should, in theory, greatly facilitate all forms of training by the grouping of a number of firms and the possibility of using central facilities such as classrooms and workshops. The specific aim of the Thies Estate in Senegal was to upgrade artisans into industrialists. The Indian Craftsmen's Estate and Technocrats' Estate mentioned earlier have the same objectives, the latter at a higher level. In Nepal there seems to be a conscious effort to develop entrepreneurial and managerial ability. Management training is available on the Pallakelle Estate in Shri Lanka. In some of the other countries management and technical training is available through national institutions, not specifically aimed at industrial estate firms.

The Small Industry Service Institutes in India provide widespread training and extension services and a modernisation programme for all small firms, whether on estates or not. The Turkish Ministry of Industry and Technology includes some management training in its annual programmes with priority for industrial estates.

In Turkey courses are also run for upgrading worker skills, including mobile workshops, an ideal means of bringing specialised training to industrialestates where workers are grouped. In several other countries firms on industrial estates use local technical schools and colleges for this purpose. On the whole there is some evidence that the presence on an estate of many firms in the same branch of industry stimulates employers to provide further training for their staffs, both technical and manual.

(b) Amenities and common Facilities for Employees

Many estates run special bus services to the main centres of population nearby. In the Lagos State industrial areas most firms, mainly medium and large sized, send buses to selected pick-up points in the city and suburbs because of the traffic congestion. These are individual initiatives.

On the whole comparatively few employee amenities on estates are reported. Indian estates visited sometimes had central canteens and in one case a restaurant. Six had post offices and bank branches; these were at least as much of value to the managements as to the workers. One had a school.

In Argentina some estates had planned canteens, restaurants and other facilities. At Trelew firms employing female labour sometimes had nurseries, nearly always heavily subsidised canteens and in two cases, shops, but these were medium sized firms and the amenities had nothing to do with their being on an estate.<sup>1</sup> The only other country reporting some amenities was Turkey where showers and barbers shops were to be found. Most estates had restaurants serving meals at low prices.

In Malaysia workers housing is common where estates are not located close to towns and in some cases complete new towns have been constructed. Some of the Indian estates had also workers housing, but housing was generally rare, since estates in most places were located near to urban centres. In Nigeria large housing estates are being or have been built on the industrial areas in Lagos State but in many cases space is not available for workers in firms nearby because the housing estates are being used to rehouse people evacuated from central Lagos.

(c) Safety and Health

In general, working conditions on industrial estates were found to be better than in small establishments outside, if only because the buildings were better constructed, more spacious and better lit and aired. One of the claims made for industrial estates is that they make labour inspection much easier. This was specifically mentioned in Nigeria, where working conditions were seen to be reasonably good and much better than in small firms outside. Protective clothing and machine guards are used fairly consistently.<sup>2</sup>

<sup>1</sup> Argentine Report, Appendix III, A3.

<sup>2</sup> Nigeria Report, Appendix II, notes on various estates.

In Malaysia the relevant Act is well enforced. Guards are used and safety clothing is general. The accident rate has dropped sharply between 1972 and 1974. First aid in each factory is obligatory; larger plants are required to have doctors and possibly clinics, available for the treatment of workers' families.<sup>1</sup> In Nepal, although working conditions in general were far superior in firms on the estates to those in firms outside, safety left something to be desired. It is reported that the Balaju Estate Shantha Factory pioneered welfare measures which have been adopted in recent welfare legislation. Several firms on the estate were forced to follow suit even before the legislation was passed.<sup>2</sup>

Nothing was said in the India Report about working conditions. In Shri Lanka they are said to be better than in firms outside. In Turkey, on the other hand, much has to be done in firms on the estates to enforce proper safety measures.<sup>3</sup>

(d) Trade Unions and industrial Relations

The presence or absence of trade union activity in firms on industrial estates seems to be a function of their general level of development in the country concerned. Where a widespread and active trade union movement exists, as in Malaysia, there is a high level of membership. On some estates there labour relations are said to be cordial.<sup>4</sup> In Argentina, where at the time of the study, trade union activity was suspended, there is little or no unionism in small firms but normal a high percentage of union members in large ones.

In Shri Lanka trade union membership is general; it is said to be welcomed by the larger firms and tolerated by the smaller ones. Labour relations generally are good.<sup>5</sup> In Nepal there are no trade unions as such but a national movement in which workers are incorporated and a structure for handling disputes, which are few.<sup>6</sup>

<sup>1</sup> Malaysia Report, p. 31.

<sup>2</sup> Nepal Report, p. 21.

<sup>3</sup> Turkish Report, p. 64.

<sup>4</sup> Malaysia Report, p. 29.

<sup>5</sup> Shri Lanka Report, p.

<sup>6</sup> Nepal Report, p. 22.

In Nigeria there is an active but rather splintered trade union movement, but no unionism was found on the small industry estates. In Turkey there is also a strong trade union movement but union membership is rare on small industry estates. It is beginning to penetrate into one estate visited and meeting hostility from employers.<sup>1</sup> Trade unions are active on estates in Pakistan but seem to have had little effect on working conditions.<sup>2</sup>

There is no evidence to suggest that small industry estates in themselves promote trade unionism when it is not already active, nor that they improve labour relations.

(e) Effects on specific Groups

The only specific groups noted which have been affected by the introduction of industrial estates seem to be women in Argentina and Malaysia and the engineers and craftsmen on the specialised estates in India.

At Trelew, the large scale employment of women, many of whom are Bolivian and Chilean immigrants, in an area where female employment was previously lacking, may, in the long run, have social repercussions, but it is too early to say.<sup>3</sup> Malaysian women are now finding employment in factories on the estates and working alongside men. Until recently they led very circumscribed lives, especially in the villages. It is probably too early to detect significant effects.<sup>4</sup>

(f) Interaction with the Community

Dr. Somasekhara makes the point in his Concluding Remarks that an estate and the region to which it is expected to contribute economically and socially should interact.<sup>5</sup> He stresses the importance of this in rural communities. In all the studies there is practically no evidence of any real interaction with local communities other than, perhaps, the improvement of some roads and street light-

<sup>1</sup> Turkish Report, Appendix III, p. 90.

<sup>2</sup> Pakistan Report, p. 44.

<sup>3</sup> Argentine Report, Appendix III, A.3.

<sup>4</sup> Malaysia Report, p. 29.

<sup>5</sup> Somasekhara, op. cit. Concluding Remarks, p. 21.

ing and improved bus services in the direction of the estate. Economic effects were discussed above; social effects are hard to find. In Malaysia new amenities have arisen in the vicinity of estates, such as children's playgrounds and golf courses. In a former squatter resettlement area at Petaling Jaya there are now several cinemas, a bowling alley and a five star hotel. Where an industrial estate is associated with a town the planners provide for a shopping centre, recreational facilities and schools. Even where a modest housing scheme is planned for an estate, space is allocated for schools, shops and recreation.<sup>1</sup>

The integration of such facilities in the planning of the environment of an estate seems to be unique among the countries studied, although it may exist in India, but nothing was said about it. No evidence of any special interaction was found in Turkey, partly, perhaps, because all the firms on the small industry estates had already been in existence in the towns concerned for a long time and all they had done was to move a few kilometres outside. The benefits to the town were less congested streets in the areas vacated and the possibility of clearing old and decrepit buildings, often wooden shacks, and replacing them with modern ones in conformity with the town plan, thus improving the appearance and amenities and probably providing increased and improved housing.

Examples of interaction in India have not been given. There must be important effects in some rural areas. In Cuba, as already stated, a high degree of interaction is built in to the establishment of industrial zones and complexes, but no details are given in the report.

Is it reasonable to expect any effect to be produced by the presence of an industrial estate, per se, other than the sort of effects noted above? Most of the effects to be expected must be those normal to the creation of employment in areas where, possibly, there was previously a shortage of work. In non-industrial areas the impact on the individual and indirectly on the community is

<sup>1</sup> Malaysian Report, p. 29.



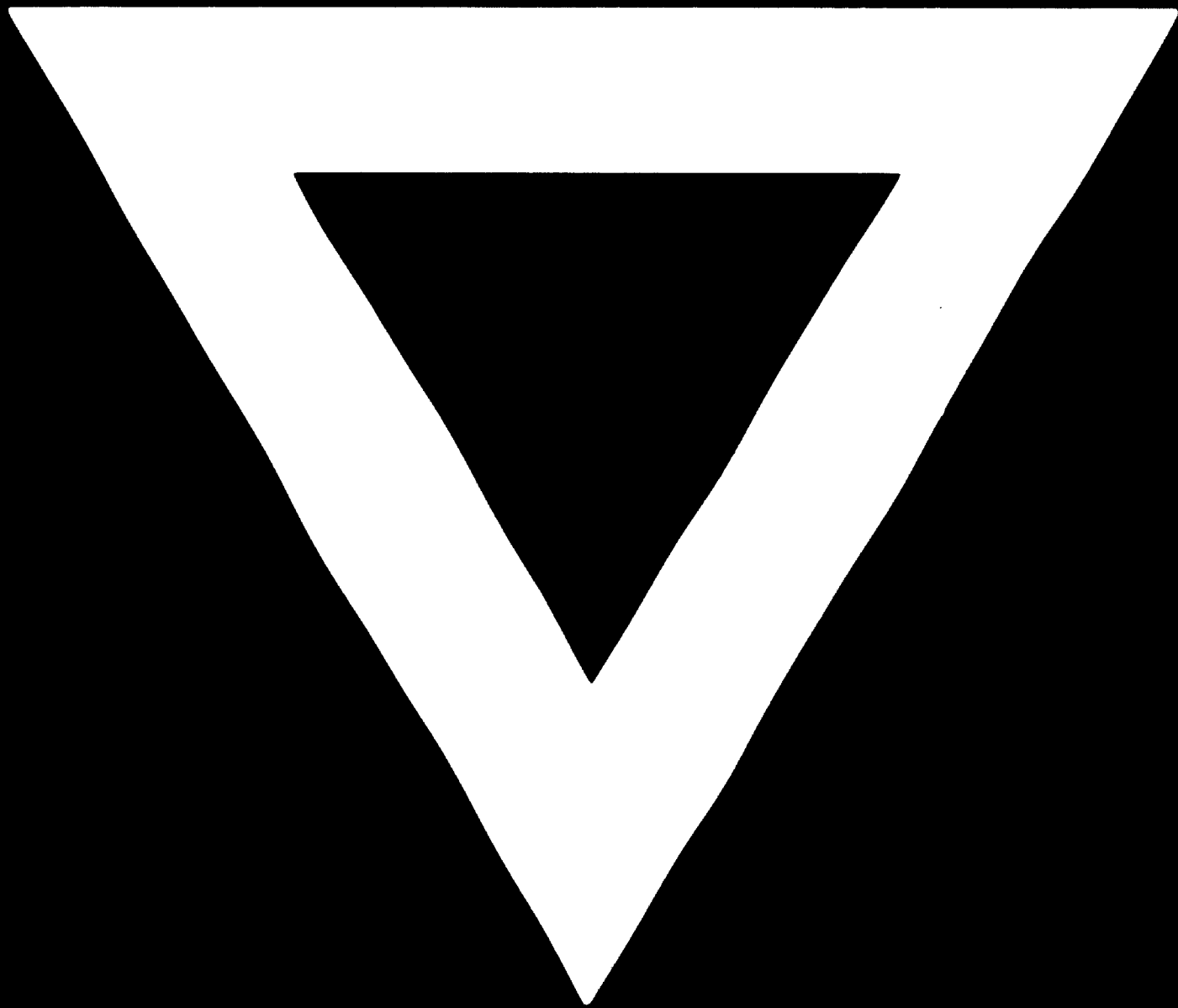
likely to be that of working under industrial conditions, with all that that implies in the way of new disciplines and constraints. The same would happen if a large plant moved into a district, except that the change might be more brutal, small industries with less formal working conditions and disciplines being, perhaps, a slightly more gentle means of induction into industry. Industrial estates do not generally spring into full occupancy overnight and the process of industrialisation on the estate may take several years, by which time even those not employed in the industries may have found themselves influenced by the general industrial environment.

Conclusion

Evidence that industrial estates, in themselves, have a significant indirect economic influence on the communities in their neighbourhoods other than would occur through the establishment of substantial industries and increased employment by other means is not forthcoming. The evidence of social effects due purely to industrial estates is far from clear and needs further investigation.



**C-266**



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