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## Industrial Development Board

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Agenda sub-item 4(c)

### EVALUATION OF INDUSTRIAL ESTATES

Note by the Secretariat

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### Introduction

1. For the last 20 years industrial estates have been considered a major tool of industrialization for developing countries and UNIDO, since its inception, has been extremely active in the promotion of industrial estates in the developing world.
2. Over the years, a number of studies had been undertaken and seminars organized by the United Nations, including UNIDO, on various aspects of industrial estates, leading to a series of publications.<sup>1/</sup> The subject was also one of the topics discussed in a number of related publications on small-scale industries.
3. In recent years, the Swedish International Development Authority (SIDA) has also been active in this field and more recently expressed the wish to assess the value of industrial estates in the industrialization process, especially as regards the promotion of small-scale and medium industries. After discussions between SIDA and UNIDO during 1974 and 1975, an agreement was reached whereby SIDA agreed to finance an evaluation study in selected countries to be carried out by a team of consultants under the aegis of UNIDO.
4. The evaluation country studies were carried out in two phases during 1975 and 1976. An Expert Group Meeting was held in December 1976 to review the findings and to formulate conclusions. The report on the studies and the Expert Group Meeting was circulated informally to the members of the Industrial Development Board during its eleventh session in May and June 1977.<sup>2/</sup> The present document provides an over-all assessment of the exercise and summarizes the principal findings and conclusions.

### Objectives of the study

5. The objectives, as laid down in the Guideline to the consultants responsible for the country studies,<sup>3/</sup> were to find out (a) Under which circumstances the investments in industrial estates programmes had proved justifiable, and (b) What were the factors that influenced the successful outcome of these projects. Secondary objectives were (a) To find out which types of enterprises fitted into industrial estate programmes and (b) To determine the optimal size of an industrial estate under different conditions. The results of the study and the

<sup>1/</sup> Establishment of Industrial Estates in Underdeveloped Countries (United Nations publication, Sales No.60.II.B.4).

The Physical Planning of Industrial Estates (United Nations publication, Sales No.62.II.B.4).

Industrial Estates in Asia and the Far East (United Nations publication, Sales No.62.II.B.5).

Industrial Estates in Africa (United Nations publication, Sales No.66.II.B.2).

Industrial Estates: Policies, Plans and Progress - A Comparative Analysis of International Experience (United Nations publication, Sales No.66.II.B.16).

Industrial Estates in Europe and the Middle East (United Nations publication, Sales No.68.II.B.11).

Small-scale Industry in Latin America (United Nations publication, Sales No.69.II.B.37).

Industrialization of Developing Countries: Problems and Prospects. Small-scale Industry (United Nations publication, Sales No.69.II.B.39, Vol.11).

<sup>2/</sup> "The Effectiveness of Industrial Estates in Developing Countries" 1977 (UNIDO/ICIS.32).

<sup>3/</sup> Ibid., annex III, pp.84-90.

conclusions arrived at are to be used as a policy guide in support programmes for industrial estates, particularly in the promotion of medium and small-scale industries.

Criteria of selection of programmes studied

6. The criteria used to select the countries in which programmes were to be studied, were: (a) That those countries provided, within the limitations of time and financial resources, a varied and representative selection of levels of economic and industrial development in the principal regions of the developing world and of the economic and political systems therein; and (b) That the United Nations had provided aid to the programmes at some stage of their development. The selection was somewhat restricted by the conditions inherent in the second criterion and by the number of Governments willing and able to provide facilities for the studies to be carried out in their countries.

7. The studies were carried out in two phases, the first phase being executed between November 1975 and March 1976. Countries visited were Cuba, Ecuador, Iran, Pakistan, Senegal and Turkey; each mission lasted two weeks in the field (in Turkey, the mission was prolonged for a few days). In April 1976, a report on the findings of the first phase was issued.<sup>4/</sup>

8. On the basis of that report, it was decided jointly by SIDA and UNIDO in July 1976 to go ahead with a second series of studies in order to clarify certain questions raised in the course of the first phase. The second phase was conducted between September and November 1976 in Argentina, Malaysia, Nepal, Nigeria, Sri Lanka and the Sudan. In addition, a consultant prepared a report on India, based mainly on material collected in the course of a study for the Overseas Development Institute of the United Kingdom. The results of these studies were summarized and related to the earlier studies in a second report.<sup>5/</sup> The two reports are complementary, the second updating and amplifying certain points dealt with in the first.

9. These two reports, together with the individual country evaluation reports, were used as background material for the Expert Group Meeting on Evaluation of the Effectiveness of Industrial Estates in Developing Countries, held in Vienna from 13 to 16 December 1976. The conclusions of both the studies and the Meeting have been issued in a single document in May 1977.<sup>6/</sup> It is further planned to use the studies as material for a more comprehensive publication to appear late in 1977 or early in 1978.

OVER-ALL ASSESSMENT OF THE PROJECT

10. The countries in which studies were made (see paras.7 and 8 above), represent a complete range from the least developed among the developing countries (Nepal, Senegal, Sudan), through countries at various stages of industrialization, to countries - such as Argentina - with a substantial modern industry sector and a high proportion of the gross domestic product represented by industrial output. India was included not only because of its immense population, but also because it has one of the oldest and largest highly evolved industrial estates programmes.

<sup>4/</sup> "Report on the Industrial Estate Programmes in Six Countries" 1976 (UNIDO/IOD.16).

<sup>5/</sup> C. R. Wynne-Roberts "Consolidated Survey" 1976 (ID/WG.231/15).

<sup>6/</sup> "The Effectiveness of Industrial Estates in Developing Countries" 1977 (UNIDO/ICIS.32).

11. The pattern of work done by the consultants in each country was broadly similar. The first two or three days of each mission were spent at the ministry responsible for the industrial estates programme, generally the ministry of industry. Here the consultants obtained basic information and statistics on the industrial situation in the country as a whole, particularly on small-scale industry and the industrial estate programme. Thereafter, for the remainder of the mission, the consultants were generally in the field visiting estates in various parts of the country concerned. A last day was then spent in the ministry discussing the findings with the responsible authorities.

12. The list of organizations contacted and persons seen, which is attached to each country report, indicates that each consultant had discussions with a representative selection of those responsible for industry and industrial estates, such as ministers and senior civil servants; officials of local authorities, industrial and trade associations; directors of industrial estates; and industrialists in individual plants. Wherever possible, the opportunity was taken to visit factories and workshops both in and outside the industrial estates in order to compare performance and operating conditions.

13. All the consultants encountered problems. The major problem in most of the countries was obtaining consistent statistical data for assessing the contribution of industrial estates against the country's industrial background. Data were often several years behind; sometimes data on related items were difficult to compare as they were available only for different years and in differing forms. Data on financial performance and output of individual firms on and off estates were impossible to obtain; in a few cases it was possible to make informed guesses. In spite of these drawbacks, in most of the countries it was possible to derive orders of magnitude indicative of the role played by industrial estates in the industrial programme as a whole, in employment and in raising the performance of industrial enterprises. The difficulties were compounded when an attempt was made to compare statistics between countries.

14. The number of industrial estates in each country varied from none (Sudan) to between five and six hundred (India). In some countries (Nepal, Nigeria, Sri Lanka) there were only two or three estates, others (Argentina, Ecuador, Iran) had long standing industrial estate programmes which for one reason or another had failed to develop satisfactorily, while yet others had fast developing programmes such as that in Malaysia, where it was a prime agent of rapid industrialization, and that in Turkey, where it was fast becoming a key element in the development of the small-industry sector. In one least developed country (Senegal), a single estate had had a measure of success in developing industrialists from artisans.

15. The variety of conditions observed in the course of the country studies included the major successes, potential successes and failures; these had to be evaluated and a number of tentative conclusions drawn from them. Indeed, every country, whatever the situation of its industrial estate programmes, yielded lessons which could be embodied in the reports.

16. To this extent, the project should be considered a success in spite of the shortness of the missions and, in many cases, the inadequacy of the formal data. Insufficient data were generally compensated for by the fact that the consultants, all of whom were experienced in the industrial field, and particularly in developing countries, were able to interpret and supplement the data from their own previous experience. Longer periods spent in some countries would have yielded further useful data and might have permitted a higher degree of accuracy, but it is doubtful whether there would have been any significant changes in the overall

picture presented. A possible exception is India, where the sheer size of the country and the variety of conditions under which the industrial estate programme has to operate make generalization on the basis of a small sample dangerous. However, the relatively limited data obtained by the consultant were to some extent compensated for by a further study<sup>7</sup> carried out previously over two periods, ten years apart, on a group of estates in Mysore State; that study was used in compiling the "Consolidated Survey"<sup>8</sup> to supplement the other data collected.

17. The importance of this project in the series of United Nations studies in the field of industrial estates lies in the fact that it is the first in which an evaluation of the role of operating industrial estates in developing countries in relation to over-all industrialization has been made. A critical assessment of the value of industrial estates and the conditions necessary for their success has also been included in the study. Hitherto, there appears to have been a general belief that industrial estates were key tools for accelerating industrialization through the development of small-scale enterprises and entrepreneurs. In the evaluation study this belief has been critically examined and, while it was accepted that industrial estates could play an important role, an attempt was made to spell out the conditions necessary to allow the estates to be effective. The conclusions of the Expert Group Meeting are given in a highly summarized form in the following section.

#### CONCLUSIONS OF THE EXPERT GROUP MEETING

18. The Expert Group consisted of national experts from the countries covered, the consultants responsible for the studies and representatives of SIDA and UNIDO. In addition, representatives of the World Bank; the Ministry for Economic Co-operation of the Federal Republic of Germany; the Research Institute for Management Science in Delft, the Netherlands; and the Hellenic Industrial Development Bank in Greece, participated in the Meeting.

19. The conclusions of the Expert Group can be divided into three main topics: (a) The contribution of industrial estates to industrialization; (b) Factors influencing the success of industrial estates; (c) Specific needs of least developed countries.

#### The contribution of industrial estates to industrialization

20. The Expert Group concluded that, on the evidence available from the reports and other material, the contribution of industrial estates to industrialization in purely statistical terms of numbers of firms on estates, output of these firms and employment generated in relation to total number of firms, output and total employment in the small-scale and medium industries sectors of the countries visited was, with a single exception, very small. In some cases, substantial sums had been invested by Governments with little returns to date. It was recognized that to some extent this might be the result of the comparatively recent development of

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<sup>7</sup> N. Somasekhara The Efficacy of Industrial Estates in India (Delhi, Vikas Publishing House Private Ltd., 1975).

<sup>8</sup> C. R. Wynne-Roberts "Consolidated Survey" 1976 (ID/WG.231/15).



industrial estate programmes which had not yet had time to show results. The qualitative contribution, in terms of the improved performance of firms on industrial estates as compared with those outside, was less easy to assess. There was evidence that some industrial estates tended to maintain less efficient firms which otherwise might have gone out of business.

21. There was evidence that some industrial estates were valuable in promoting the development of special sectors such as high-technology industries and of entrepreneurs from special groups of qualified and skilled personnel. As regards least developed countries, the Expert Group observed that industrial estates had an important role to play in the entrepreneurial development in those countries but called for heavy inputs of technical assistance, both national and international.

22. Another area where industrial estates had proved successful was in clearing the central business and residential districts of cities of small industries, thus relieving congestion and enabling the development of property. There were also successful examples of industrial estates where small firms were subcontractors to a large firm or used raw material or by-products from that firm.

23. The Expert Group considered that the indirect benefits of industrial estates were very difficult to measure. The development of physical infrastructure had some benefits, particularly the economies effected by grouping industries and thus reducing for each firm the cost of land, roads, power lines, sewers and the like, which in the case of a large industrial zone could be important. There was evidence that a successful industrial estate - particularly a large-sized one with a mix of sizes of enterprises - stimulated the local economy through increased purchasing power of the workers and - through external economies - stimulation of ancillary industries, repair shops, consumer and other services. There was little evidence that industrial estates improved social conditions, although the grouping of workshops made it easier for the authorities to supervise the application of labour laws and, in general, workshops on industrial estates offered improved conditions compared with those outside.

#### Factors influencing the success of industrial estates

24. The factors influencing the success of industrial estates were many. The Expert Group considered that the most important were probably the development of a sound policy and realistic objectives by the authorities responsible, on the basis of substantial preliminary studies, and, thereafter, the consistent pursuit of these objectives. Once accepted, the objectives must be supported by all the available means - financial, fiscal, promotional and technical - necessary for their achievement.

25. The Expert Group also considered that an industrial estate programme could not be treated in isolation from the national industrial development programme as a whole; only adequate linkages and relationships ensured both optimization of investments in infrastructure as well as derivation of external economies.

26. Among other factors influencing industrial estates were the availability of markets and the location, size and siting of estates. All these factors were interrelated. Depending on the location, a minimum size was required for both credibility and ensuring economies of scale.

In determining the site, account should be taken of both economic and social factors. Involvement of local institutions and the local community was particularly important in semi-urban and rural locations.

27. The selection of industries to be allowed to enter an estate was found to be important. Greater success was likely to be achieved if an estate contained a large number of firms operating in the same or related branches of industry; only then would it be possible and economic to provide central technical services and the important effect of proximity could stimulate inter-firm business.

28. On several of the estates that were studied, firms were believed to continue in existence only because of direct and indirect subsidies. This fact led to the conclusion that, at least on publicly financed estates, there should be more rigorous selection from among entrepreneurs wishing to enter the estate to ensure the maximum return on public moneys devoted to industrial development.

29. The importance of government support, especially in the least developed countries, was fully recognized. The ready availability of finance in the form of loans and credits, subject to normal safeguards, was considered of prime importance. In particular, it was felt that development banks could be more liberal and provide finance on the basis of profitability of the project and appraisal of entrepreneurship rather than on narrow considerations of security and collateral. Other services of varying importance, depending on the degree of the country's or region's industrial or social development, were aid in obtaining scarce raw materials at controlled prices, as well as fiscal incentives and common facilities, including the use of extension services for technical and managerial training and advice.

30. In the context of financing industrial estates, the Expert Group was informed of the policy of the World Bank which expected all investment in estates to be recovered and to result in a profit.

31. The organization and management of the estates were found to be of critical importance to their success. There was considerable merit in estates run by co-operatives or associations of industrialists, since direct government financial participation was reduced with a corresponding reduction in risk. The management of an estate should be in the hands of well-qualified and competent persons able to manage the estate effectively as a grouping of industrial enterprises, rather than as a real estate operation. Appropriate management involved an interest and assistance in the development of the enterprises. People for such positions should be selected and trained in advance of the setting up of the estate.

#### Specific needs of the least developed countries

32. The Expert Group recognized the special needs of the least developed countries, and references to least developed countries occurred throughout the discussions. One clear conclusion was that, although there was no single formula suitable for all countries in that category, industrial estates and their component firms in those countries needed substantial inputs of technical assistance continued over long periods (possibly for at least ten years). Industrial estates probably had a much more important role to play in the least developed countries than they had elsewhere. The scarcity of technical, organizational and managerial skills in those countries demanded innovative and flexible approaches involving the use of

existing training and technical institutions and combining the provision of training and technical assistance with provision of factory accommodation in mini clusters. Major emphasis on utilization of local and national resources, rather than undue dependence on imported raw materials, was important for success. Equally important was the involvement of the local/national community and the use of appropriate technology. The Expert Group was also informed by UNDP of the possibility of combining IPF financing for planning and development of the infrastructure with United Nations Capital Development Funds financing covering part of the capital costs of construction and seed capital for credit facilities etc.

Swedish International Development Authority

33. The representative of SIDA expressed satisfaction that the expectations envisaged when launching the evaluation study had been fulfilled through the studies and the Meeting. He said the documentation had been copious and requested UNIDO to ensure that the considerable material accumulated be published in a form in which aid agencies as well as developing countries could use it as guidelines for the future.

ANNEX

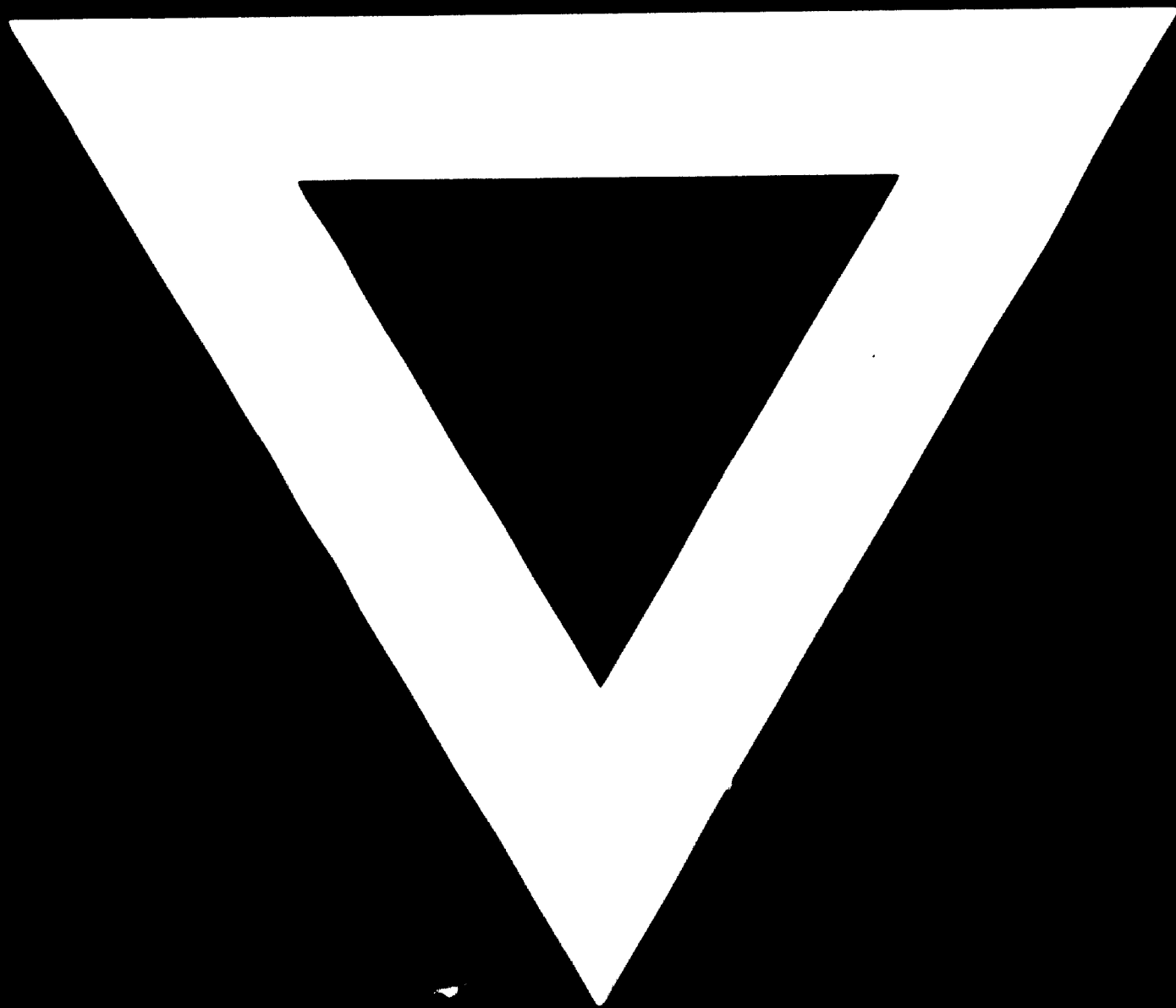
LIST OF DOCUMENTS

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

Vienna, 13 - 16 December 1976

<u>Symbol</u>	<u>Titles</u>
ID/WG.231/1	Evaluation report on industrial estates No.1 - Turkey, by C. R. Wynne-Roberts
ID/WG.231/2	Evaluation report on industrial estates No.2 - Cuba, by F. C. Holm
ID/WG.231/3	Evaluation report on industrial estates No.3 - Ecuador, by C. R. Wynne-Roberts
ID/WG.231/4	Evaluation report on industrial estates No.4 - Pakistan, by J. Sigurdson
ID/WG.231/5	Evaluation report on industrial estates No.5 - Ssngal, by C. R. Droesch
ID/WG.231/6	Evaluation report on industrial estates No.6 - Iran, by D. Wall
ID/WG.231/11	Evaluation report on industrial estates No.7 - Nigeria, by C. R. Wynne-Roberts
ID/WG.231/14	Evaluation report on industrial sstates No.8 - Argentina, by C. R. Wynne-Roberts
ID/WG.231/8	Evaluation report on industrial estates No.9 - Malaysia, by A. Neilson
ID/WG.231/9	Evaluation report on industrial estates No.10 - Nepal, by A. Neilson
ID/WG.231/13	Evaluation rspot on industrial estates No.11 - Sri Lanka, by R. K. Vepa
ID/WG.231/10	Evaluation report on industrial estates No.12 - Sudan, by C. R. Droesch
ID/WG.231/12	Evaluation report on industrial estates No.13 - India, by N. V. Hogg
ID/WG.231/7	Evaluation rspot on industrial sstates No.14 - India (Mysore State), by N. Somasekhara
UNIDO/IOD.16	Report on the industrial estates programmes in six countries
ID/WG.231/15	Consolidated survey, by C. R. Wynns-Roberts
-	Major issues in planning and design of industrial estates in the lsast dsvelopsd countriss, by UNDP
UNIDO/ICIS.32	The effectiveness of industrial estates in developing countriss

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