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DO 2401



Distr.
GENERAL

ID/CONF. 1/29
27 April 1967

1/29

United Nations Industrial Development Organization

ENGLISH ONLY

INTERNATIONAL SYMPOSIUM ON INDUSTRIAL DEVELOPMENT
Athens, 29 November-20 December 1967
Provisional agenda item 3 (b)

Background Paper

**POLICIES AND PROGRAMMES FOR THE ESTABLISHMENT
OF INDUSTRIAL ESTATES**

Presented by the Executive Director
of the United Nations Industrial Development Organization

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report on industrial estates

We regret that some of the pages in the microfiche copy of this report may not be up to the proper legibility standards, even though the best possible copy was used for preparing the master fiche.

1. The industrial estate and a variant - the industrial area - are today, throughout the world, widely used instruments for the planned location and development of industry. By 1966, hundreds of projects of these types were either in operation or at the planning or construction stage in fifty-six countries, industrial and developing - twelve countries in Europe, three in North America, eleven in South America, sixteen in Asia and the Far East, and fourteen in Africa.
2. The reason for which industrial estates and areas are used on such a scale is that they can play a role in a broad variety of policies and programmes. The purpose of this report is to review these policies and to present some guidelines for the planning of industrial estate programmes and projects.^{1/}

I. POLICIES AND OBJECTIVES

3. An industrial estate is a planned clustering of industrial enterprises offering standard factory buildings erected in advance of demand, and a variety of services and facilities to the occupants. In the developing countries, the industrial estate serves principally to promote small-scale industry. This is its main and best-known role.
4. The industrial area is a tract of land offering only sites with the necessary infra-structure - power, water, roads, sewerage etc. The industrial area is, in conjunction with other measures, an important inducement to the establishment of industries of all types and sizes, especially of large-scale and medium-sized enterprises.
5. The industrial zone is part of an urban or suburban centre restricted to industrial use, on which no improvements are made. Both estates and areas should be located in industrial zones; if necessary, they may themselves be sub-zoned for industries of different types.
6. In any country, the basic motivation of a decision to set up an industrial estate or area is to induce industry to settle and develop at a specific location

^{1/} Only the highlights of these policies and guidelines are given in this document. These and other issues in industrial estate development are reviewed and analysed in various publications of the United Nations. A bibliography of documents on the subject appears in the annex to the present document.

planned and improved to that effect. While these two objectives - location and development - are necessarily bound together, there may be, in policies and programmes in which industrial estates play a role, considerable differences in the emphasis attached to the achievement of one or the other.

7. In general, in the industrially advanced countries, industrial estates and areas are principally used as a device for influencing the location of industry. When they are located in already industrialized centres, they are usually commercially sponsored, profit-motivated ventures; in some cases, they are part of urbanization programmes, including urban development, redevelopment and renewal. When they are set up in relatively less developed regions of these countries, or in areas suffering from unemployment, they serve either centrally encouraged industrial dispersal or regional development policies or locally sponsored industrialization programmes.

8. In the developing countries, they are principally used as an incentive for industrial development, and less to influence location. Their purpose is to facilitate and support the creation, expansion and modernization of industry. To a more limited extent, they play a role in industrial decentralization programmes. In recent years, increasing recognition has been given to the need of integrating them in urban and regional planning programmes.

9. The above distinction reflects essentially the emphasis given today to industrial estate development in countries at different stages of industrialization. It does not prejudice the future orientation of programmes in this field, especially in the developing countries where policies will undoubtedly be focused increasingly on decentralization and regional development. Nor should it obscure the fact that, location and development being so closely interrelated, a great variety of objectives can be simultaneously pursued in any industrial estate or industrial area project. An industrial estate may at the same time play a role in a decentralization programme, a regional and urban plan, a small industry development programme etc.; it may be located in a suburb or be part of a port or airport development scheme; it may contribute to providing an industrial base in a new town, be combined with an industrial area in a new industrial centre, serve to stimulate sub-contracting, attract foreign investment, and so on. Thus, it is for reasons of convenience rather than of substance that the different policies in which estates and areas may play a role are classified below under separate categories.

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Promotion of small-scale industries

10. The industrial estate is one of the most effective means of stimulating entrepreneurship in new industries and undertakings and, under certain circumstances, of facilitating the modest but steady construction and expansion of existing small units relocated in the estate. The promotion of entrepreneurship, especially indigenous entrepreneurship, is a major objective in all developing countries and the development of small-scale industry, especially through industrial estates, is one of the most promising ways of achieving this objective. The availability of standard factories for rent or lease on a purchase is, for people with small financial means, a major inducement to engage in industrial operations. The existence of industrial extension services is another inducement to entrepreneurship since without such assistance, people with little or no technical and managerial knowledge would hesitate to take up an industrial occupation. When an extension service is part of an industrial estate, the small industrialists may receive counselling and help in all aspects of production and management over a long period of time. Common service facilities, such as a tool room, a maintenance and repair shop, a testing and quality control laboratory, and others, the type of which may vary with the composition of industries on the estate, contribute to improving productivity and product quality and to reducing costs. The grouping of small industries on a common site is also beneficial to set up other facilities, such as a training institution, an information centre etc., as part of the estate.
- Financing of small-scale industries is also facilitated on an estate. Not only is the provision of premises for rent a form of financial assistance to occupants, but the help provided by the extension agencies in assessing credit requirements, in formulating applications for loans, in supervising the use of the funds and, through technical counselling, in improving the productivity and thereby the credit-worthiness of the small industrialists, considerably reduces the risks of and obstacles to small industry financing. Thus, the industrial estate is an effective instrument for integrating the various measures of support to small-scale industries.
11. An industrial estate may facilitate the development of inter-trading and inter-servicing relationships among its occupants and, in certain cases, between them and large industries. In some countries, "ancillary" industrial estates especially

devised for small enterprises working as sub-contractors for large concerns have been set up. Industrialization on an estate will stimulate development outside of it through the establishment of new trade and service undertakings and of industrial enterprises located in the neighbourhood.

12. Clustering makes possible some of the economies of scale and efficiencies of specialization which usually obtain only in large-scale undertakings. The maximum advantages will accrue in the case of specialized industrial estates, such as those reserved for industries processing the same raw materials or producing goods of similar types, or the so-called "functional estates" which group together complementary and interdependent units engaged in the production of parts and components of a given product, the manufacturing of which may not be feasible in a single small-scale enterprise. Further strengthening of small units may be induced through the development of co-operative associations, which may be more easily set up by the occupants of an estate, especially of a specialized one, than by isolated producers. Also, economies will be achieved in the provision of infra-structure and in the building of a sizable number of standard factories, common workshops and other facilities.

13. While an industrial estate will provide many important services to the occupants, it cannot be a substitute for a more general development programme for small-scale industries, but should be an integral part of it. A broader programme will include not only the services listed above, but also financing on liberal terms, technological research, training of managers and workers, fiscal and other incentives, export promotion etc.^{2/} These measures will not only be complementary to those provided on the estate, but will be of broader geographical applicability, whether at the regional or the national level. Each industrial estate should serve as a nucleus for regional industrial development and many of its services, in particular industrial extension, should also be made available to small industrialists, prospective or established, located outside of it, within a given area.

2/ See "Policies and Programmes for the Development of Small-scale Industry" (ID/CONF.1/6).

14. The latter role is of decisive importance since the number of industries located on an industrial estate will be relatively small, and the total number of estates which can be set up throughout a country by the Government will necessarily be limited. Even after an industrial estate programme gets into full swing, the overwhelming majority of small-scale industries will remain and settle outside the estates. One of the major functions of publicly sponsored industrial estates is to exert a catalytic effect on the development of industry and other economic activities in a broader area. They are also expected to have a demonstration effect which will induce local governments, private groups, or both, to set up their own industrial estates.

15. Industrial estate programmes should be closely co-ordinated with other development programmes of broader scope, such as supply of infra-structure facilities (power generation and distribution, road construction, water works etc.), development of related sectors (agriculture, irrigation, transportation, tourism etc.) and regional and urban planning. This is of the utmost importance for selecting the location of industrial estates, especially when these are parts of industrial decentralization programmes. Co-ordination with projects for the provision of housing, schools, hospitals etc. is also essential.

16. Thus, an industrial estate project should not be a mere "real estate" operation, providing improved sites and factory accommodation. It should be a promotional instrument, integrating a variety of measures and incentives which, in turn, should be part of development plans of broader scope. It is principally for this reason that, in the early stages at any rate, an industrial estate programme should be sponsored and financed by the Government. Private or community organisations cannot be expected to take such initiatives, but their co-operation will be essential to the success of the projects; the possibility that they might take over their ownership and management should be considered at some stage.

17. Since small industry and industrial estate development policies are essentially directed at stimulating private entrepreneurial initiatives, they have taken form, evolved and matured in market-oriented economies. In centrally planned and socialist economies, there are no areas or estates providing inducements to the location and establishment of private industrial concerns. However, the economic and other advantages of industrial clustering are well recognized, and the

underlying principles are fully used in planning, zoning, locating and constructing industries, as part of the over-all planned distribution of productive forces at the national, regional and local levels. In these countries, small industries are either State-owned, co-operative, worker-owned or privately owned. In these as in other economies, they represent a significant proportion of the total number of industrial enterprises and of total employment in manufacturing. They are confronted with the same difficulties in the field of financing, technique, management and marketing. In some of these countries, it is recognized that the grouping of small enterprises, both in associations and on common sites, and the provision of common service facilities and technical help, are necessary to strengthen and assist them. At a recent United Nations conference,^{2/} participants from some of these countries felt that there was scope for the establishment, by co-operative or private groups, of industrial estates and areas appropriately adapted - principally as regards financing, management and ownership - to the economic and political conditions of these nations. The view was expressed that small-scale industries had a role to play in the decentralization of industry and regional development, and that industrial estates might be used for that purpose. Co-operative estates might be particularly effective if set up in conjunction with large industrial projects, the small enterprises being linked to the large ones by ancillary or auxiliary relationships. The participants suggested that these possibilities be studied by the planning agencies of their countries.

Promotion of industries of all types and sizes

18. In general, large-scale and medium-sized industries will not need standard factories and the variety of services offered on industrial estates, but the availability of an improved site and of certain types of services on an industrial area may influence their decision to settle in a given locality. Experience shows, however, that the offer of an improved site alone will not be a sufficient incentive to their establishment. The larger industries have more rigorous

^{2/} Consultative Group on Industrial Estates and Industrial Areas in Certain European and Other Countries, Geneva, 24 to 29 October 1966. The report of the Group will be published by the United Nations in 1968 in Industrial Estates in Europe and the Middle East.

location criteria than the smaller ones, their requirements for raw materials, markets or labour being predominant considerations. As a rule, an industrial area will be effective only if it complements a programme of fiscal and tariff incentives, financial assistance, including, if need be, government equity participation, and services such as hiring and training labour, market surveys, help in carrying out incorporation and other formalities etc. In many cases, construction of a factory and provision of equipment according to the manufacturer's specifications on a "turn-key" basis may be a decisive inducement to the establishment of large enterprises. This will be particularly effective for attracting foreign undertakings; the immediate availability of a relatively large standard factory may sometimes also influence their decision.

19. In some instances, small-scale industries having sufficient financial resources and technical ability may forgo the advantages of the industrial estate and may be able to put up their own buildings on a site in an industrial area. This may be the case, in particular, of small enterprises which outgrow the premises which they occupy on an industrial estate.

20. There are considerable advantages in combining, whenever possible, the features of the industrial estate and the industrial area. An industrial estate may offer not only standard factory buildings but also improved sites, and custom-built factories may be provided, if necessary, by the sponsoring authority. An industrial area may make available, besides improved sites, some or all of the services referred to earlier.

21. It is useful, especially in urban and suburban locations, to set up an industrial estate and an industrial area on the same tract of land, within a properly planned industrial zone. A development of this type would not only be justified by considerations of urban planning, but would also make it possible to achieve economies in development and building costs, flexibility in land use and effectiveness in administration. It would also facilitate inter-industry relations, especially between large and small undertakings.

22. The inclusion of an estate, an area or both in an industrial free zone may be a useful means of promoting the establishment of export industries, small and large - an objective of paramount importance for the developing countries. The establishment of such estates and areas should be considered very carefully, after

thorough feasibility studies which should take into account the broader policies of industrialization, export promotion, attraction of foreign capital and enterprises, fiscal and financial incentives, export marketing possibilities and foreign trade relations.

23. Industrial estates and areas located near a port or airport may be suitable not only for export industries, but also for industries processing resources hitherto exported raw or semi-processed, and industries processing imported raw materials and assembling imported components, whether for the foreign or the domestic market.

24. A variation of the industrial estate - the workshop block with a few common service facilities - may occasionally be used for the promotion of artisans and craftsmen. As a rule, the workshop block should not be open to traditional artisan activities of a jobbing or servicing nature such as carpentry and blacksmithy, nor even to modern-servicing industries such as plumbing, electrical installation, mechanical repairs etc., all of which usually require scattered locations rather than concentration on common sites. Unless they are transformed into modern manufacturing establishments, artisan and handicraft undertakings should not be admitted to industrial estates for small-scale industries, since the facilities of the estates are not adapted to their needs.

Industrial decentralization and regional development

25. Industrial estates and areas play a significant role in regional development policies, particularly in the industrial countries. In most of these, government policies are aimed at the same time at diverting industry from certain over-populated and over-industrialized centres, steering it towards relatively less developed or depressed areas of the country and inducing and facilitating establishment of industry in these areas. These policies are carried out through programmes of incentives such as tax, tariff and financial concessions and subsidies, grants and loans, provision of infra-structure facilities, construction of industrial estates and areas and even of new towns; sometimes, they are accompanied by measures restricting the establishment of industry in the congested areas or subordinating it to approval by central authorities.

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26. A good example is that of the United Kingdom where, in the past thirty years, policies of massive government action and assistance have been carried out aimed at checking further congestion in the London area and the Midlands and developing other parts of the country. During this period, the focus of the Board of Trade's policy changed from the rehabilitation of depressed areas in North East England, Scotland and Wales to nation-wide regulatory distribution of industry and to promotion of employment in districts with a high rate of unemployment. In part because of these policy changes, in part because of new developments in the war and post-war periods, and also because of the success achieved, the scope of government assistance was gradually narrowed down but, while special grants and loans, rental rebates, tax concessions and other measures were abandoned, the provision of standard factories for rent on industrial estates, and of certain related services, remained a constant feature of all programmes.

27. In Italy, the development of the Mezzogiorno (southern Italy) was, until 1957, based principally on a comprehensive programme of tax, customs and financial incentives and on the construction of basic infra-structure works at the regional level, in the expectation that these measures would suffice to induce a large and growing inflow of industrial undertakings. In the past ten years, in addition to these measures, encouragement was given to the provision of physical industrial facilities in the form of industrial areas, large and small. The development laws permit construction of standard factories and provision of common services, and recourse to these is being considered with a view to intensifying and accelerating the industrialization process.

28. In the developing countries, overcrowding of metropolitan centres, regional under-development and the need for balanced growth and equalization of living standards among regions are equally serious issues but, because of the inadequacy of resources and the tremendous scale of the development effort required, industrial decentralization has usually been, so far, a subsidiary policy objective. In a few countries - for instance, India, Nigeria and Venezuela - comprehensive development programmes including industrial estates and areas are carried out on a broad scale which makes it possible to influence the national and regional distribution of industry. In most countries, however, industrialization takes place, and is encouraged, in those locations where industry is already established

and where the external economies and other prerequisites for its development are present. As higher levels of industrialization are reached, the need for decentralization and regional development will become more pressing, and the use of industrial estates and areas for this purpose will undoubtedly increase.

29. There is much evidence that medium-sized and small towns which have a minimum development of economic and social infra-structure and good prospects of industrial development offer possibilities for the location of industrial estates and areas. Maximum self-supporting development will take place in regional centres where the establishment of small and medium industries can be related to that of larger projects such as power plants, recreation and irrigation works, heavy manufacturing and industrial complexes.

30. Some locations with particularly favourable development prospects may be expected to play the role of "industrial development poles" in which a variety of light manufacturing industrial activities and commercial and service undertakings would grow around a core of large and heavy industrial plants. The development of such poles may be accelerated by the provision of estates and areas, together with other incentives and measures of promotion. Development poles, however, are not alternatives to industrial estates. The latter may stimulate industrialization on a small scale in localities where prospects for development are good, but limited.

31. Industrial estates and areas may also play an important role in new towns, capital cities, ports etc., where they may provide a base for industrial development, may diversify employment opportunities and promote inter-industry relations.

Urban development

32. Rapid urbanization is a world-wide phenomenon which results, among other things, in increased requirements for economic and social overheads, and certain negative effects such as traffic congestion, social and sanitary problems and unhealthy living conditions. Another consequence is the increasing shortage of land for industrial use and rising land values. The problem of rapid urbanization is acute in many developing countries where only the overcrowded capital cities and a few major urban centres offer the necessary prerequisites for the

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establishment of industry. The measures adopted in many countries to check and regulate further congestion include land use and zoning plans, urban and suburban development plans, redevelopment and renewal plans and, in particular, slum clearance programmes.

33. Well-planned industrial estates and areas may usefully contribute to urban development planning. They may regulate the inflow of industry and guide and facilitate its location in the industrial zones; maximize land use control, reduce costs of land and land development, and achieve economies in the provision of urban services and utilities; provide sites to rehause industries displaced by slum clearance programmes - an important consideration in developing countries where small industries are usually located in the poorest parts of towns and where renewal programmes would normally have the effect of destroying productive capacity without providing for the relocation, let alone the modernization of the evicted enterprises. Where new suburban sections or satellite or new towns are developed, industrial estates and areas may not only provide an industrial base and diversify employment opportunities, but regulate settlement in industrial, residential and other non-industrial zones, ensure compatibility in land use, in particular by protecting non-industrial areas from industrial nuisance, minimize the journey to work, and reduce traffic congestion and transportation costs.

34. Programmes of this type should be integrated in, or, at any rate, co-ordinate with, regional and urban development plans providing for harmonious development of infra-structure, industry, commerce, services, housing, transportation, public services, amenities and so on in given territorial areas. To meet the needs of land for industry in growing and constantly changing urban areas, various systems have been developed. Among these is the industrial land bank scheme under which parcels of land of different sizes and qualities in different locations are continuously acquired by a public authority, reserved for immediate or future use, subdivided and sold or leased for industrial use. The establishment of industrial estates and areas may be greatly assisted by such a system.

35. The industrial estate and area plans should not only provide for a healthful and attractive environment, but also reserve land for future expansion, ensure proper relationship with urban facilities, and prevent, through appropriate controls, undesirable developments of squatters and slums on the fringes,

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II. SOME GUIDELINES FOR PLANNING INDUSTRIAL ESTATES

36. Since industrial estates are promotional instruments and since, in developing countries, private and community organizations usually lack the means and experience to organize and finance them, the initiative and responsibility for setting up the first industrial estates should be taken by the Government or by a Government-supported agency. An industrial estate agency should enjoy a large measure of autonomy in order to have the necessary flexibility in its day-to-day operations and to avoid the delays and uncertainties of Government budgeting and administrative procedures. Eventually, factories and certain common facility workshops may be turned over to private ownership, and the corporate management of the estate may be transferred to private groups organized, for instance, in co-operative associations. An early transfer would enable the sponsoring authority to recover promptly the bulk of its investment and to plough it back in other development projects, in particular other industrial estates.

37. Thorough surveys and feasibility studies should be undertaken to analyse and evaluate the economic, engineering and physical factors involved in locating and planning an industrial estate. The feasibility studies should survey the availability of supporting facilities and the prospects of industrial development at alternative locations and, in the light of this review, recommend the location, site, type and size of the estate, including requirements for standard factories and common service facilities, propose a development schedule for the estate, and estimate construction and development costs.^{4/}

38. The first industrial estate will be generally expected to exert a demonstration effect by achieving rapid success in terms of speed of occupancy and high level of efficiency in production and management by the tenants. As a rule, the best conditions of success will be found in or near larger cities where external economies facilitate entrepreneurial initiatives, the mobilization of financial resources, the hiring of skilled labour etc. As the industrial estate programme develops, projects may be undertaken in smaller towns.

^{4/} Physical planning of industrial estates is not discussed in this document. Details will be found in the following United Nations publications: The Physical Planning of Industrial Estates (Sales No.: 62.II.B.4); "Physical Planning of Industrial Estates", by T.S. Vedagiri, in Industrial Estates in Asia and the Far East (Sales No.: 62.II.B.5); "Planning, Design and Construction of Industrial Estates with Particular Reference to Africa", by Edward D. Mills, in Industrial Estates in Africa (Sales No.: 66.II.B.2); and "Pre-Project Planning for Industrial Estates", by P. Gavigley, in Industrial Estates in Europe and the Middle East (to be published in 1968).

39. Admission policies in an industrial estate should be governed by the principles prescribed in national and regional plans, taking into account the development possibilities brought out by pre-project feasibility studies. While priority is usually given to newly-established enterprises, existing units may also be admitted to an estate under certain conditions, for instance, if they renovate and improve their equipment. Financial and technical assistance should be provided for this purpose. Admission policies aimed at influencing the industrial composition of an estate are justified in many cases, particularly in order to facilitate the early establishment and economic operation of common service facilities, which require an effective and sustained demand on the part of the occupants. For obvious reasons, admission policies are restrictive in the case of specialized industrial estates such as single-trade, functional, ancillary or export industry estates.

40. Leasing of factory accommodation on a rental basis or on hire-purchase is one of the strongest inducements to entrepreneurship and occupancy since tenants with limited financial resources need not invest in land and building and may use their funds and loans for equipment and working capital. Rent subsidization, for a limited period and on a decreasing scale, is frequently considered to be a necessary incentive. In general, however, a flexible policy of offering premises either for sale, rent or hire-purchase is practised.

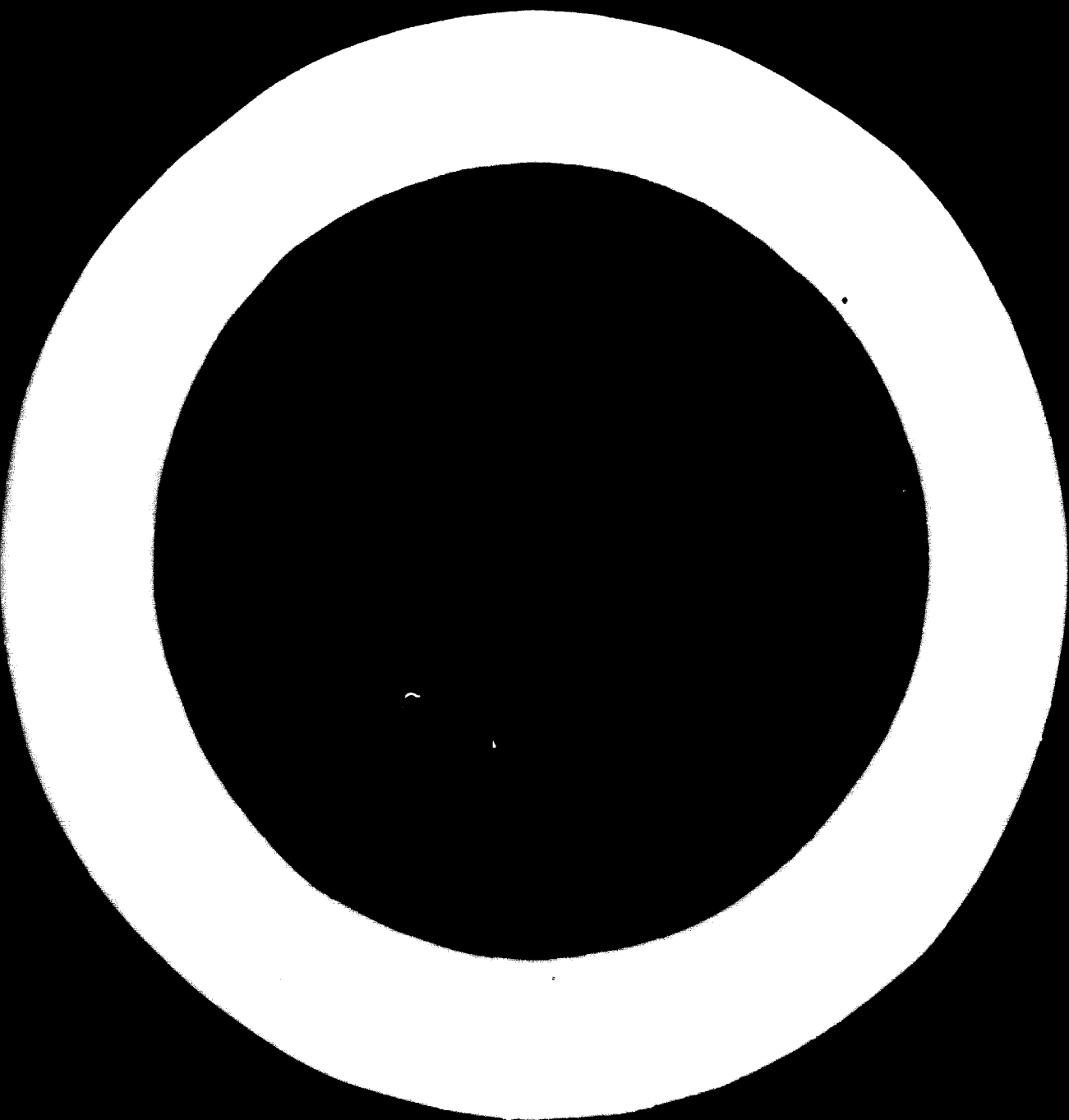
41. Managerial control by the sponsoring authority should normally extend only to the administration of the estate, and not to the operation of individual enterprises. The enforcement of restrictive covenants in lease agreements and of rules and regulations, including selective admission policies, control of resale of factories by owners, or obligation to re-sell to the authority, building codes regulating the construction of factories by the occupants etc. are legitimate and necessary functions of the management of the estate. The degree of managerial control is inevitably greater in a specialized industrial estate, especially in a functional estate where the production programmes of the occupants should be planned and co-ordinated. In all estates, it is desirable that occupants share to some extent in their administration or act in some consultative capacity.

42. The types of service and facilities on an estate may vary considerably from one project to another. Fire protection, refuse disposal and a first-aid centre should be set up on every estate. The need for a canteen, clinic, bank and

recreational facilities would usually depend on the size of the project and the availability of municipal or commercial facilities near at hand. As regards promotional facilities, a tool room and a testing and quality control laboratory would generally be justified on any estate, irrespective of its composition. Facilities such as a tool lease shop, forge, foundry, enamelling and galvanoplasty shop, etc. may be required if there is sufficient demand, present or prospective, and if the establishment of commercial undertakings in these lines of business is not forthcoming. As a rule, the promotional facilities of an industrial estate should not compete with similar activities located in the estate or in the surrounding area. Those promotional services which can be considered as operating costs for the industrial user should be charged on a no-profit, no-loss basis. The services of industrial extension centres, management development centres or vocational training centres established in or near an estate would normally be provided free of charge. Other services may include legal advice, insurance, accounting and auditing, warehousing, showrooms, and so on. Joint procurement of raw materials, marketing of products, publicity, etc. may be undertaken on a co-operative basis by the occupants.

43. Financing of government-sponsored industrial estates may take a great variety of forms. It may be borne by the central, state, provincial or local governments, separately or in co-operation. Financing of land acquisition, site development, factory construction and establishment of common service facilities may be divided in different ways among them. A sizable contribution of the central Government is usually essential at the inception of a programme. As the programme develops and the benefits of industrial estates are demonstrated and publicized, encouragement and assistance may be given to increasing participation by private groups, in particular by co-operatives, chambers of commerce, commercial lending institutions etc. in co-operation with municipalities and other public or semi-public bodies.

44. The financing of machinery and equipment of enterprises admitted to industrial estates should be provided through institutional channels - commercial banks, development corporations and, where they exist, hire-purchase companies - and not directly by the Government or the industrial estate authority. The same is true of the financing of working capital. Credit should be granted on liberal terms. However, since the availability of a standard factory for rent represents a considerable saving in fixed capital, a small enterprise in an industrial estate should be expected to provide a substantial part of the remaining capital, if its structure and operation are to be sound and economical.



ANNEX

BIBLIOGRAPHY OF UNITED NATIONS ARTICLES, PUBLICATIONS
AND REPORTS ON INDUSTRIAL ESTATES a/

1. Establishment of Industrial Estates in Under-developed Countries (Sales
No.: 60.II.B.4).

The publication deals principally with the role of industrial estates in policies of industrialization with special reference to promotion of small-scale industries. It gives first a general picture of industrial estates projects - planned and completed - in various countries. It then describes and analyses in detail the objectives and policies bearing on the establishment of industrial estates in three industrial countries where the device has been extensively applied: the United States, the United Kingdom and Italy. This is followed by a review of objectives and policies in two developing countries where important industrial estates programmes are being carried out: India and Puerto Rico. Detailed information is also provided on policies and achievements in Jamaica, Mexico, Brazil, Nigeria and Pakistan.

The experience of these countries is assessed in the next chapter. Four main types of policies in which industrial estates play a role are distinguished: location and development policies based, respectively, on indirect and direct control; industrialization policies based on inducements to investors from abroad; and industrialization policies based on provision of integrated measures of assistance, a type which is particularly suitable for the promotion of small industries. The chapter also contains a discussion of the types of estates suitable for developing countries at different levels of industrial development, and of policies of location and admission. It concludes with an examination of certain secondary effects of industrial estates, and of the role of the latter in development schemes of broader scope.

In the last chapter, industrial estates are discussed as a means of promoting small-scale industry, with special attention to problems of technical and financial assistance. Problems of planning industrial estates are examined in two appendices to this chapter: the first deals with exploratory surveys; the second contains a case study concerning the establishment of an industrial estate in a developing country.

a/ The material is arranged by date of publication.

2. "Seminar on Industrial Estates in the ECAFE Region", in Industrialization and Productivity, Bulletin No. 5 (Sales No.: 62.II.B.1).

A brief account of the proceedings of the first regional United Nations seminar on the subject, held in Madras, India, in November 1961.

3. The Physical Planning of Industrial Estates (Sales No.: 62.II.B.4).

The purpose of this publication is to provide guidance in locating, planning, laying out and building industrial estates, especially those for small-scale industries. After discussing location, planning and control of land use within the broader context of urbanization and regional planning, it examines such physical planning problems as zoning, restrictive covenants, siting, transportation, provision of utilities, size of the estate, size and coverage of factory lots; layout of plots, roads, loading and parking spaces; size, layout, design and construction materials for factory buildings of various types, such as "standard" and "nursery" or "nest" factories, and for administrative and ancillary buildings and facilities, including storage and warehousing. The publication also discussed the role of special industrial estates, such as "flatted factories" and urban industrial parks in programmes of urban industrial development and redevelopment. It contains data on the norms for plots, factories, road widths and land use adopted or recommended in various countries.

4. Industrial Estates in Asia and the Far East (Sales No.: 62.II.B.5).

The publication contains the report of the Seminar on Industrial Estates in the Region of the Economic Commission for Asia and the Far East, Madras, 1961, and long excerpts from the discussion and information papers submitted to the seminar.

The discussion papers relating to policies, plans and progress in countries of the region include: "Aspects of Labour and Management on Industrial Estates with Special Reference to Small Industries in Asian Countries", by the International Labour Office; "The Role of Industrial Estates in the Industrial Development of Ceylon", by E.C.S. Paul; "Co-operation between and Assistance to Small-scale Units in Industrial Estates in India", by A.S.E. Iyer; "Physical Planning of Industrial Estates", by T.S. Vedagiri; and "Establishment of Industrial Estates in a Rural Setting", by Y. Lang Wong.

Information papers include: country studies on Burma, China, Federation of Malaya, India, Indonesia, Iran, Japan, Korea, Laos, Nepal, Pakistan, Thailand, Hong Kong, Sarawak and Singapore; and papers on "The Role of Industrial Estates in Indian Planning", by D.K. Malhotra; "Major Problems in Setting up Production Units in Industrial Estates", by the Indian Investment Centre; and

"Industrialization and the Changing Dimensions of Caste Occupation in India", by the United Nations Educational, Scientific and Cultural Organization.

The publication also contains three discussion papers on industrial estates in certain developed countries outside the region: "The Port and Industrial Zone of Marghera", by G. Giavi; "Problems in Establishment of Large-scale Industrial Estates", by G.G. Lenham; and "Some Controversial Questions Concerning Industrial Estates", by A. Molinari; and two country studies on the Union of Soviet Socialist Republics and the United States of America, respectively.

5. **"Industrial Development in the United Nations Development Decade" in Industrialization and Productivity, Bulletin No. 6 (Sales No.: 63.II.B.1).**

This article, which outlines in some detail certain proposals of the Secretary-General of the United Nations in the field of industrial development during the Development Decade (The United Nations Development Decade - Proposals for Action, Sales No.: 63.II.B.2), refers, among other things, to the role of small-scale industries and industrial estates and to the role of the United Nations in this connexion.

6. **"Seminar on Industrial Estates in Africa", in Industrialization and Productivity, Bulletin No. 9 (Sales No.: 65.II.B.6).**

A brief account of the proceedings of the second regional United Nations seminar on the subject, held in Addis Ababa, Ethiopia, in December 1964.

7. **Industrial Estates in Africa (Sales No.: 66.II.B.2).**

The publication contains the report of the Seminar on Industrial Estates in the Region of the Economic Commission for Africa, Addis Ababa, 1964 and two discussion papers: "Planning, Design and Construction of Industrial Estates with Particular Reference to Africa", by Edward D. Mills, and "Industrial Estate Plans and Projects in African Countries". The latter includes a general survey and data on plans and projects in Angola and Mozambique, Cameroon, Chad, Democratic Republic of the Congo, Equatorial Guinea, Zambia, Ghana, Guinea, Kenya, Mauritius, Nigeria, Senegal, Somalia, South Africa, Southern Rhodesia, Uganda, the United Arab Republic and the United Republic of Tanzania.

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

A survey of objectives and policies, planning and organization, management and financing of industrial estates in fifty-six countries in all regions, based on replies to a questionnaire on industrial estates and other relevant information.

9. Report of the United Nations Symposium on the Planning and Development of New Towns (Sales No.: 66.IV.3).

The publication contains the report of a symposium held in Moscow, August-September 1964, which refers, among other things, to the role of industrial estates for small-scale industries and industrial areas in providing an economic base in new towns.

10. Promotion of Small-scale Industries in the Developing Countries. To be published in 1967.

The publication will contain, among other things, the following material on industrial estates: "The Role of Industrial Estates in Policies and Programmes for the Development of Small-scale Industries" and "Types of Industrial Estates", by P.C. Alexander; "Services and Facilities for Small-scale Industries in Industrial Estates", by A.D. Bohra.

11. Industrial Estates in Europe and the Middle East. To be published in 1968.

The publication will include the report of the third and fourth United Nations conferences on the subject - the Consultative Group on Industrial Estates and Industrial Areas in Certain European and Other Countries in the Process of Industrialization, held at Geneva in October 1966, and the report of the Consultative Group on Industrial Estates and Industrial Areas in Arab Countries of the Middle East, held at Beirut in November 1966. The latter report contains, among other things, data on plans and projects in Iraq, Jordan, Kuwait, Lebanon, Saudi Arabia and Syria.

The following discussion papers will be included: "Industrial Estate Plans and Projects in Some European and Other Countries" (general survey and data on Belgium, Bulgaria, Cyprus, Denmark, Finland, France, Greece, Ireland, Israel, Italy, Malta, the Netherlands, Spain, Sweden, Switzerland, Turkey and the United Kingdom); "The Role of Industrial Zones, Areas and Nuclei in Development Policies and Programmes with Special Reference to the Promotion of Small-scale Industries: The Experience of Italy", by C. Alhaique; "The Role of Industrial Estates, Areas and Zones in Providing an Industrial Base in Urban and Regional Development Plans", by A. Solow; "Pre-Project Planning for Industrial Estates", by P. Quigley; "Public and Private Financing of Industrial Estate Projects and Stimulation of Private Projects by Government Authorities with Special Reference to India's Experience", by B.K. Chatterji; and "United Nations Activities in the Field of Industrial Estates".

It will also include an information paper on "Research Parks in the United States: A Case Study from Colorado", by J. Stepanek.

12. Small-scale Industry in Latin America. To be published in 1968.

The publication will contain the report of the Seminar on Small-scale Industry in Latin America, held in Quito, Ecuador, in November-December 1966, and some of the papers prepared for the seminar, among which is a report on "Industrial Estate Plans and Projects in Latin American Countries" (general survey and data on Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador, Jamaica, Mexico, Netherlands Antilles, Nicaragua, Panama, Peru, Puerto Rico, Trinidad and Tobago, and Venezuela).

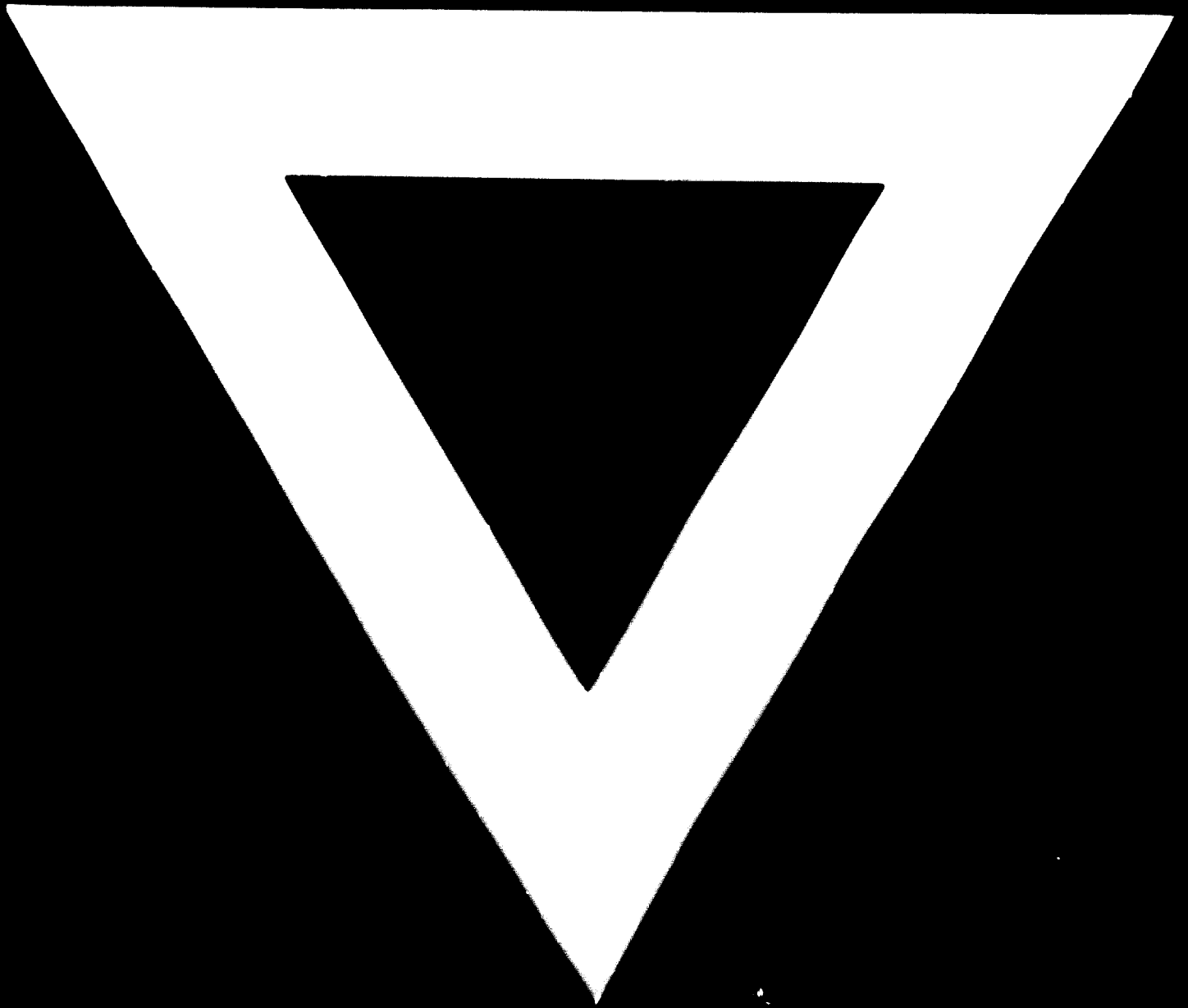
13. Common Service Facilities on Industrial Estates. In preparation for eventual publication.

A study of the tool room and the testing and quality control laboratory as common service facilities on industrial estates for small-scale industries. Description of the functions, policies, procedures, methods, equipment and staff of these facilities, including economic and engineering data.

14. The Functional Industrial Estate. In preparation for eventual publication

A study of a specialized type of industrial estate for small industries producing parts and components of certain products as part of a planned production programme. Analysis of the suitable types of production, sponsorship, organization, layout, services, financing etc.





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