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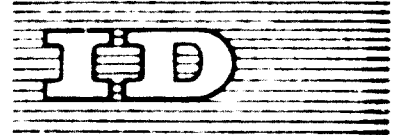
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Extension Services for Small-scale Industry  
in the West African Sub-region  
Dakar, Senegal, 25 May - 4 June 1970  
in the East African Sub-region  
Kampala, Uganda, 5 - 18 June 1970 (tentative)

THE ROLE OF INDUSTRIAL ESSENTIALS IN THE  
DEVELOPMENT OF SMALL-SCALE INDUSTRY  
IN AFRICAN COUNTRIES<sup>\*</sup>

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<sup>\*</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. The document has been reproduced without formal editing.

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TABLE OF CONTENTS

	<u>Page</u>
Introduction	3
I. REVIEW OF INDUSTRIAL ESTATE PLANS AND PROJECTS IN A NUMBER OF AFRICAN COUNTRIES (as of 28 February 1970)	5
Botswana	5
Cameroun	5
Central African Republic	5
Chad	5
Congo (Democratic Republic of)	6
Dahomey	6
Equatorial Guinea	6
Gabon	6
Gambia	6
Ghana	7
Guinea	7
Ivory Coast	7
Kenya	7
Lesotho	8
Liberia	8
Madagascar	9
Mauritius	9
Niger	10
Nigeria	10
Rwanda	11
Senegal	11
Somalia	12
Sudan	12
Swaziland	13
Tanzania (United Republic of)	13
Togo	13
Uganda	14
United Arab Republic	14
Upper Volta	14
Zambia	15
TABLE: Data on Industrial Estates in selected African countries	16
II. A TENTATIVE ANALYSIS OF CURRENT DEVELOPMENTS	18

## Introduction

In December 1964, a regional seminar on industrial estates, covering the region of the Economic Commission of Africa (ECA) was held in Addis Ababa, Ethiopia. The seminar was jointly sponsored by the Centre for Industrial Development (CID), the Economic Commission for Africa (ECA) and the Bureau of Technical Assistance Operations of the United Nations Department of Economic and Social Affairs.

A number of studies submitted to the seminar by CID are included in a United Nations publication entitled Industrial Estates in Africa (Sales No.66.II.B.2). Among them are a review, carried out during 1964, of "Industrial Estate Plans and Projects in African Countries" and "Planning, Design and Construction of Industrial Estates with Particular Reference to Africa" by E. D. Mills. The publication also contains the "Report of the United Nations Seminar on Industrial Estates in the Region of the Economic Commission of Africa".

Since that time, the efforts undertaken by the Centre for Industrial Development and its successor - the United Nations Industrial Development Organization (UNIDO) <sup>1/</sup>, have contributed to stimulating interest in the field of industrial estates by the Governments of several African countries. A number of projects have been formulated, which are today at various stages of planning and implementation.

For the purposes of the Training Workshops on Extension Services for Small-scale Industry in the West African Sub-region at Dakar, Senegal (25 May - 4 June 1970) and in the East African Sub-region at Kampala, Uganda (8 - 18 June 1970), it was considered useful to up-date the review made in 1964, including not only achievements but also very recent plans. This is contained in the present paper which is largely based on information available to the Small-scale Industry Section of UNIDO. Not all the relevant data may however be available and the review may have to be revised

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<sup>1/</sup> From 1962 to the end of 1966, the Unit of the United Nations Secretariat dealing with industrialization, including small-scale industry development, was the Centre for Industrial Development (CID) of the Department of Economic and Social Affairs. Further to a decision by the General Assembly at its twenty-first session in 1966, the United Nations Industrial Development Organization (UNIDO) was created in 1967 as an autonomous organization within the United Nations, replacing CID.

in the light of additional information. Yet, it is felt that the sample may still be of interest since it takes into account many recent developments and shows the policies and objectives adopted, the problems and difficulties encountered and the possible solutions in a large number of African countries.

The up-dated country data are presented in chapter I. An analysis of these data is contained in chapter II.

I. REVIEW OF INDUSTRIAL ESTATE PLANS AND PROJECTS  
IN A NUMBER OF AFRICAN COUNTRIES  
(as of 28 February 1970)

Botswana

A UNIDO expert in industrial estates has investigated the possibilities of setting up one or several industrial estates with a view to stimulating new indigenous entrepreneurship. He recommended the establishment of a small industrial estate at Francistown.

Cameroun

In 1969, a UNIDO expert conducted, at the request of the Government, a preliminary study on the development of industrial estates in the country. Industrial decentralization and regional development being a major objective of the Government, four possible locations were suggested: Douala, Yaoundé, Ombé and Maroua. This choice had various reasons: Douala is the economic centre of the country and offers the best economic prospects; Yaoundé, the political capital, already has a serious problem of unemployment; Ombé in Western Cameroun, where the English-speaking inhabitants (about 1 million out of 5) live, is chosen in part for political reasons; and Maroua in the North was selected because this region is the most backward one and some regional development was considered necessary.

In 1970, another UNIDO expert is expected to formulate a draft request to UNDP (Special Fund) for assistance in setting up a first pilot industrial estate in Douala.

Central African Republic

In 1970, a UNIDO expert in small and medium-sized industries will, among other tasks, study the possibilities of developing industrial estates as a means of stimulating indigenous entrepreneurship.

Chad

The Government of Chad has requested the services of an industrial estate expert to conduct a feasibility study for an industrial estate at Fort-Lamy and, should the results be positive, to draft a request to UNDP (Special Fund) for assistance in establishing the estate.

### Congo (Democratic Republic of)

A regional adviser of UNIDO stationed in Kinshasa or a UNIDO expert recruited for this purpose will draft a request to UNDP (Special Fund) for assistance in developing a first demonstration industrial estate at Kinshasa. The estate would be part of a general programme for the development of Congolese industries throughout the country.

### Dahomey

A project for establishing a Centre for Industrial Promotion with the assistance of UNDP (Special Fund) has been elaborated in 1969 by a UNIDO expert stationed in Cotonou. The centre will, among other things, explore the possibilities of industrial estate development.

### Equatorial Guinea

In the 1964 review, industrial estate development was contemplated in Rio Muni after the completion of infra-structure facilities such as building of a harbour and development of power supply and communications in the hinterland. No new developments are reported as far as industrial estates are concerned.

### Gabon

An industrial engineer, expert in small-scale industry, is expected to take up a one-year assignment early in 1970. Among other tasks, the expert will prepare a project for a first industrial estate which PROICGABON ("Agence Gabonaise de Promotion Industrielle et Artisanale") plans to set up in the industrial zone of Owendo (Libreville) in order to put a maximum of facilities at the disposal of Gabonese entrepreneurs. The estate project will be integrated into a comprehensive programme for small-scale industry development implemented by the industrial extension service of PROICGABON. A few small enterprises have already been set up in Owendo with the assistance of PROICGABON.

### Gambia

In order to stimulate industrial growth and to facilitate diversification of industry, an industrial area was established near Bathurst, but there are no indications that industrial estate development is intended.



Ghana

No changes are reported in the field of industrial estates as compared to the situation described in the 1964 review. The only existing industrial estate at Nyanibah on the outskirts of Accra has been used mostly for warehousing and only a few small industries occupy premises on the estate. A project for setting up an industrial estate for light and service industries as part of the new port of Tema is still under discussion but no concrete studies have been undertaken.

Guinea

UNIDO has no information on small industry development or industrial estates plans or projects in that country.

Ivory Coast

In 1965, a staff member of the Centre for Industrial Development (now UNIDO) recommended in a report on his mission to the Ivory Coast the establishment of a small industry promotion and service agency and of a pilot industrial estate in Abidjan as the most effective means of starting a programme for the development of indigenous entrepreneurship in the country. In 1968, a special institution - the "Office de la Promotion de l'Entreprise Ivoirienne" (OPEI) - was created with the purpose of stimulating and promoting African entrepreneurship. In 1969, the services of an industrial estate expert were requested for a short-term mission. Subsequently, the terms of reference and the duration of the mission were enlarged in order to ensure maximum assistance to OPEI. Among other work, the expert, who is expected to report on duty in the near future, will undertake a detailed feasibility and pre-investment study for a pilot industrial estate in Abidjan, he will assess the prospects of the project and formulate eventually a request for UNDP (Special Fund) assistance.

Kenya

In the beginning of 1965, the Republic of Kenya and the Federal Republic of Germany signed a bilateral agreement on technical assistance which was followed by a long-term, low-interest loan (25 years duration, 3 per cent interest) of 5 million DM (US\$1,250,000) for establishing an industrial estate at Nairobi. Indian bilateral help and UNIDO assistance in the form of expert services were also obtained. Construction started in 1967 after a one-year pre-planning phase. In the middle of 1968

construction was completed. At the beginning of 1969, 10 factories out of 25 were occupied and one year later, in the beginning of 1970, all 25 units were allocated and 15 of them occupied by industrial enterprises. Revision of the second phase planning started in 1969 and it is expected that construction of additional factories will commence soon. The second phase is almost double of the first one. Information was received by UNIDO that a request for assistance in the establishment of industrial estates at Lombard and Ngara and also for rural development might be forthcoming. (For further details on the Nairobi industrial estate, see the table at the end of this chapter.)

#### Lesotho

An industrial estate expert is being recruited for a three-month mission under SIS to advise the Government and the Lesotho National Development Corporation (LNDC) on the possibility of setting up industrial estates in the country. In case the survey has positive results, the expert would also advise the Government on suitable locations and would prepare preliminary studies for the estates. Moreover, the expert will make recommendations on further assistance required from the United Nations for carrying out the proposed programme.

#### Liberia

In 1967, a technical adviser of UNIDO formulated a request to UNDP (Special Fund) for assistance in establishing an industrial area and an industrial estate near Monrovia. The request was formulated for a period of five years, but was subsequently reduced to three years which could be considered as a first phase in the execution of the project. The request has not been admitted so far. The Government has reserved about 1,100 acres (447.5 ha) of land for industrial use bordering on the Paynesville Freeway connecting the customs-free Monrovia seaport with the road to the airport. This manufacturing zone is located at a distance of about 6 miles (over 9 km) from the centre of the town. Under the revised project, assistance would be provided in drawing up a master plan for the entire industrial zone which would include an industrial estate for small-scale industries, an industrial area for medium-sized and large-scale industries, a customs-free area for export industries of all types and sizes. Further assistance would also be requested for developing 100 acres (40.5 ha) of land adjacent to the area marked in the master plan for the industrial area with the necessary infrastructure - power, water, sewage, telephone connexions,

access and internal roads. Assistance would also be requested for developing 20 acres (8.1 ha) out of the total land earmarked for an industrial estate. (See table for further details).

#### Madagascar

Following a short-term mission of a UNIDO expert in 1968, a draft request to UNDP (Special Fund) has been prepared for assistance in establishing a pilot industrial estate at Tamatave, an urban centre with approximately 50,000 inhabitants and the most important port of the island. The draft request was formulated for a five-year period but was subsequently reduced to a three-year period as a first stage in the implementation of the project. The project is concerned with an industrial zone (250 ha) located near the port of Tamatave which would include an industrial area offering improved sites for industries of all types and sizes and an industrial estate for small-scale industries offering not only the land and the required infra-structure but also standard factories, common service facilities and technical assistance to the small entrepreneurs throughout all stages of establishment and operation. The industrial estate would form part of a comprehensive development programme for small-scale industry to be implemented by a small-scale industry service, the establishment of which is also envisaged in the project. The request has not been submitted so far. However, the Government has requested the services of two small-scale industry experts - one industrial economist and one industrial engineer - to conduct detailed feasibility and pre-investment studies for the industrial estate and the industries to be located on it, to advise on the planning, organization and financing of the industrial estate and area, and on the organization of a small industry service. The experts are under recruitment and expected to report on duty early in 1970. The estate would initially be developed over 1.23 ha. (See table for further details.)

#### Mauritius

The Government of Mauritius has requested under SIS the services of an expert in export promotion who would, among other tasks, investigate the possibility of setting up a free zone including, if need be, an industrial estate for export-oriented small-scale industries. Also, the Government has officially requested assistance from UNDP (Special Fund) in the establishment of an Industrial Promotion Centre which

would stimulate industrial development in all forms, including small-scale industry. Advance recruitment under SIS of two experts - one industrial economist and one industrial engineer - is underway. The task of the experts will be to facilitate the establishment of the Centre.

#### Niger

A request to UNDP (Special Fund) for assistance in the establishment of an industrial estate and an industrial area at Niamey was prepared by a UNIDO expert in 1968. The request was formulated for a five-year period and was officially submitted by the Government in January 1969. The project was subsequently reduced to a period of three years for a first phase in the implementation of the project. A two-expert team, consisting of an industrial economist and an industrial engineer, both specialized in small-scale industry, will pave the way for the team of experts provided by UNDP (Special Fund) by conducting detailed feasibility and pre-investment studies for the industrial estate and area and for the small-scale industries to be located on them. The project is concerned with the development of an industrial zone located near Niamey, between the Niger River and the road to the airport, which would include an industrial area with the required infrastructure for industries of all types and sizes including small-scale industries willing and able to construct their own factories and an industrial estate featuring standard factories, common service facilities and technical assistance to all small entrepreneurs who are in need of it for setting up and operating their business in the estate, the area or outside. The industrial estate would cover 1.2 ha in the initial stage and would have additional land of 3 ha in reserve for future development. The industrial estate project would be part of a comprehensive development programme for small-scale industry to be implemented by a small-scale industry service ("Fonds de promotion de la petite industrie et de l'artisanat"), the establishment of which is also envisaged in the project. A handicraft centre for upgrading artisans and transforming them into modern small-scale industries either in the same or different lines of business may be a further component of the project. (See table for further details.)

#### Nigeria

The Yaba Industrial Estate in Lagos, established in 1958, is fully occupied by 22 Nigerian-owned and -managed industries in 28 basic units. According to information

recently obtained by a UNIDO staff member, a proposal is under consideration to acquire additional adjacent land (4 acres or 1.62 ha) for 60 more factories. A long waiting list of entrepreneurs wanting to move into the premises of the Yaba estate guarantees rapid occupation of the new factories, one reason being the acute shortage of land suitable for industrial use, a situation prevailing not only at Lagos but also in the other urban centres of the country. New estates may be developed near Lagos, in Kaduna, Kano, Zaria, Ilorin, Ibadan and Benin. Land suitable for industrial use has already been reserved in most of these locations and some large-scale industries have settled in these tracts. The states now plan to reserve some land of the developed industrial areas for industrial estates providing standard factories for small-scale industries. Expert advice in planning the industrial estates might be requested by some of the states through the Federal Government.

#### Rwanda

An industrial estate expert of UNIDO, who recently terminated a mission to Rwanda, elaborated a request to UNDP (Special Fund) for assistance in establishing an industrial estate near Gikondo, at about 3 km distance from Kigali. The estate (approximately 1.91 ha) will be part of an industrial area of 32 ha situated on the plain near Gikondo along the national toll road from Kigali to the airport and on to Uganda. The Government provides the land and the European Development Fund (EDF) will finance the costs of the infra-structure. According to the expert, the industrial area might be put at the disposal of its occupants at the beginning of 1972. The request has been formulated for a period of four years, including one year (1971) which would be used for preparatory work. The first phase of the industrial estate might be finished in 1974/75. The expert recommends to reserve an adjacent plot of land (1.07 ha) for future expansion of the industrial estate. It is expected that the Government will officially submit the request to UNDP (Special Fund) in time for the January 1971 session of the Governing Council. (See table for further details.)

#### Senegal

An industrial estate expert, member of a Special Fund team, is assisting the National Society for Industrial Studies and Promotion ("Société Nationale d'Etudes de Promotion Industrielle" - SONEPI) which, among other tasks, is in charge of studying and organizing the establishment of industrial estates throughout the country.

The industrial estate programme was started at Thiès, through the conversion into an estate of military quarters vacated by the French Army. After initial difficulties, the project is now successfully under way. A dozen small-scale Senegalese industries (including some service industries) occupy premises on the estate of Thiès, in which the Railway Company (Réseau des Chemins de Fer) and other local promoters take a special interest.

The most ambitious project will be carried out at Dakar, where a large piece of land (32.4 ha) is to be developed for small and medium-sized industries (12.2 ha) and handicrafts (3.3 ha), common service facilities (1.7 ha) and roads, parking, open space etc. (15.2 ha). The Dakar estate will accommodate 383 handicraft enterprises and 116 small-scale and medium-sized industries, 17 of which would get only developed plots. The project is currently at the planning stage.

Preliminary studies have been conducted for two new industrial estates, at Thiérouye which is also in the Cap-Vert region, and at Ziguinchor in the Casamance region. Further possible locations for industrial estates will be investigated. These are at Fikine, also in the Cap-Vert region, at St. Louis, Tambacounda, Kaolack and Diourbel. The approximate size of the industrial estates is given hereunder:

<u>Industrial Estate of</u>	<u>Size</u> (hectares)	<u>Industrial Estate of</u>	<u>Size</u> (hectares)
Thiès (phase I)	2.7	Ziguinchor	7
(phase II)	4	St. Louis	10
Dakar	32.4	Tambacounda	6
Thiérouye	17	Kaolack	8
Fikine	6	Diourbel	8

#### Somalia

Although the Government has received assistance (under bilateral programmes) in planning and programming industrial estates since 1963, implementation appears to have been hampered by lack of financial resources and of expertise.

#### Sierra

As a follow-up of a two-year mission in the field of small-scale industry development, undertaken in 1969, a small-scale industry adviser is currently working out, at the request of the Government, a detailed proposal for setting up an industrial

estate in the new industrial area of Omdurman, near Khartoum, for relocating and modernizing small-scale industries now located in the congested old industrial area. He is also investigating the possibility of establishing an industrial estate at New Halfa where the necessary infra-structure already exists and small industries are coming up. In addition, the expert will make detailed suggestions concerning the conversion of the existing industrial areas at Was Hadani, Kosti and Kassala into industrial estates providing factory accommodation on a rental basis to small-scale industries.

#### Swaziland

In 1970, a small industry expert provided by UNIDO will draw up a programme for the development of small-scale industry and will conduct a feasibility study for an industrial estate.

#### Tanzania (United Republic of)

A UNIDO consultant, who visited the country on a short fact-finding mission in 1969, reported that the Government is interested in assistance in developing an industrial estate at Dar-es-Salaam providing factory accommodation for small enterprises which, being housed in very small workshops, cannot expand at present. The Government also wants to go ahead with rural industrialization through the development of groupings or clusters of small factories, including demonstration plants, in carefully selected provincial towns and rural areas.

#### Togo

A UNIDO expert in small-scale industry is assisting the Togolese Government in formulating a detailed project for the establishment of a pilot industrial estate near Lomé within the framework of an integrated development programme for small-scale and medium-sized industries. A suitable piece of flat land (42.25 ha) has already been selected in the port area and has been placed at the disposal of the Director of Industries. The zone is bordered on one side by the Lomé-Aneho railway line and on the other side by the main highway from Lomé to Cotonou. Excellent communication facilities and the close proximity of the customs-free port counterbalance the disadvantage of 2 km's distance from the centre of Lomé. Detailed studies on the estate and the industries to be located on it, the search for Togolese entrepreneurs, etc. are being carried out at present. A request to UNDP (Special Fund) has been worked out for assistance in setting up this estate, but it has not been submitted so far.

### Uganda

In 1966 the Governing Council of UNDP approved the Special Fund project entitled "Small Industry Development Programme and Establishment of an Industrial Estate, Kampala". The project became operational in 1968. At present, five experts, including the project manager, are in Kampala. The government is expected to provide professional counterparts at an early date. A decision in respect of the location of the industrial estate at Kituka, Kampala, was taken by the Government in August 1969. The delay was due in part to the shortage of industrial land at Kampala and also to financial and other difficulties. (See table for further details.)

### United Arab Republic

The three industrial estates set up under the second five-year programme (1960-1965) at Bassatin, near Cairo, at Mansoura and at Beni Suif are in operation. No information is available about the progress of the eight industrial estates to be established under the third industrialization programme (1965-1970).

### Upper Volta

On the basis of information gathered by a UNIDO expert on a short-term mission in 1968/69, a draft request to UNDP (Special Fund) has been prepared for assistance in establishing a promotion agency for small-scale industries and handicrafts, and an industrial estate for small industries, including workshops for handicrafts at Ouagadougou. Formulated initially for a five-year period, the request was subsequently reduced to three years as a first step in the implementation of the project. The project is concerned with an industrial zone (about 40 ha) situated at 3 km's distance northeast of the capital which would include the estate and the handicrafts centre. The estate would form part of a comprehensive development programme for small-scale industries and handicrafts to be implemented by the promotion agency, the creation of which is also envisaged in the project. The revised request was submitted to UNDP (Special Fund) in February 1970. An industrial estate expert is currently under recruitment who, as a follow-up of the previous mission, will make a thorough feasibility and pre-investment study for the estate and the industries to be set up on it. He will advise on the planning, organization and financing of the estate, the handicraft centre and the industrial area, and on the organization of the agency for small-scale industries and handicrafts. (See table for further details.)



Zambia

So far, experience with industrial estates has been limited to a "nursery" industrial estate at Birmingham Street, in the industrial area at Lusaka. The nursery estate consists of a single, long factory shed of 14,820 square feet (1,377 m<sup>2</sup>) divided into 19 bays of 780 square feet (72.5 m<sup>2</sup>), each without partition. The total cost of the project is estimated at £ 28,500. The building was completed in October 1967. The monthly rental was fixed at £ 15.15 s. per bay. Although the project was intensely advertised, only six bays are used for industrial activities by two tenants, one of whom - a furniture maker - occupies four bays. The other 13 bays are used by the Zambia National Wholesale Corporation for storage purposes.

The establishment of small industrial estates in selected provincial towns away from the railway line is envisaged as part of the project for assistance in the development of small-scale enterprises which UNDP (Special Fund) has approved in June 1969. The development of manufacturing and service activities owned and/or managed by Zambian entrepreneurs in the rural centres has high priority and industrial estates are considered a major incentive to attract Zambian entrepreneurs. The industries expected to be developed during the three-year project will be in the fields of food-processing, wood-working, sheet-metal working, simple mechanical workshops, maintenance and repair shops and certain service enterprises.

Table

Data on industrial estates in  
Selected African Countries

	KENYA	LIBERIA	MADAGASCAR	NIGER	RWANDA	UGANDA	UPPER VOLTA
	Nairobi	Monrovia	Tamatave	Niamey	Kigali	Kampala	Casablanca
Period of development of the industrial estate (first phase) (years)	2	3	3	3	4	5	3
I <u>Total land available for industry</u>							
Land to be developed (before industrial estate building) (100% reserved land)	50,600	50,937	1,300	12,000	13,140	93,078	11,400
Land to be reserved for the industrial estate (100% reserved)	..	..	20,700	30,000	10,180	23,078	15,600
Future site of the industrial estate (m <sup>2</sup> )	..	..	33,000	40,000	18,500	106,140	27,000
Available industrial area (h.)	..	..	14	..	..	..	..
Industrial sites (land reserved for industrial use) (h.)	..	405.15	250	..	..	42.00	48
II <u>Industrial estate</u>							
Stands allocated: Size (m <sup>2</sup> ) and number of stands	348 (3)	307 (8)	100 (20)	240 (2)	100 (4)	465 (15)	100 (15)
	200 (1)	-	-	180 (2)	240 (4)	186 (15)	-
	300 (2)	-	-	120 (4)	120 (9)	-	-
	175 (4)	-	-	..	..	-	-
	116 (5)	-	-	..	..	-	-
	58 (10)	-	-	..	..	-	-
Total covered area (before expansion) (m <sup>2</sup> )	3,658	2,452	2,000	1,560	4,680	9,755	1,500
Total plot area (m <sup>2</sup> )	10,684	24,281	8,000	..	11,048	71,306	6,000

Industrial sites (land reserved for industrial use) (h.)

### II Industrial estate

Stands allocated: Size (m<sup>2</sup>) and number of stands

Total covered area (before expansion) (m<sup>2</sup>)

Total plot area (m<sup>2</sup>)

File (continued)	KENYA Nairobi	LIBERIA Monrovia	MADAGASCAR Tamatave	NIGER Niamey	RWANDA Kigali	UGANDA Kampala	UPPER VOLTA Ouagadougou
<u>Central workshop (and warehouse):</u>							
Covered area (m <sup>2</sup> )	58*	307	500	630	300	(186)*	400
Plot area (m <sup>2</sup> )	...	2,023	1,000	...	468	...	800
<u>Administrative building:</u>							
Covered area (m <sup>2</sup> )	371	307	200	150	240	139	150
Plot area (m <sup>2</sup> )	...	2,023	800	...	...	...	600
<u>Other common service facilities:</u>							
Covered area (m <sup>2</sup> )	28	-	-	-	570	293	-
Plot area (m <sup>2</sup> )	...	-	-	-	...	...	-
<u>All buildings:</u>							
Total covered area (m <sup>2</sup> )	4,638	3,066	2,700	2,340	5,790	...	2,050
Total plot area (m <sup>2</sup> )	18,788	28,327	9,800	...	...	...	7,400
Developed plots for custom-built factories (m <sup>2</sup> )	8,094	-	-	-	-	-	-
<u>Roads, parking, open space, etc. (m<sup>2</sup>)</u>	25,727	52,610	2,500	...	...	...	4,000
<u>Industrial estate:</u>							
Total area (m <sup>2</sup> )	52,609	80,937	12,300	12,000	19,140	93,078	11,400
<u>Costs of the industrial estate (US\$)</u>							
Cost of land per m <sup>2</sup>	0	0	0.4	0.5	0.13	0.5	0.5
Total cost of land	0	2,000	4,920	6,000	11,800	3,420	3,420
Cost of infra-structure per m <sup>2</sup>	...	0.19	1.6	2.13	1.54	2.16	2.16
Total cost of infrastructure	143,000	15,000	19,680	25,600	143,000	24,600	24,600
Construction cost of buildings per m <sup>2</sup>	...	64.50	...	...	...	...	...
Total cost of buildings	471,000	198,000	200,000	169,760	309,760	462,000	151,000
Total cost of investment	614,000	215,000	224,600	201,360	428,562	616,800	179,020

\* sum of plot areas for all buildings except the factories: 8,094 m<sup>2</sup> (2 acres)  
 \*\* not included \$ 100,000 for 2.5 km of access road

## II. A TENTATIVE ANALYSIS OF CURRENT DEVELOPMENTS

The above data show that a very large number of African countries rely on the industrial estate as an instrument for the promotion of indigenous small-scale industries. However, at the present time, industrial estates have been built and occupied in only four countries of the continent - Kenya, Nigeria, Senegal and the United Arab Republic. In two other countries - Ghana and Zambia - industrial estates have been constructed but some of the factories are used for non-industrial purposes such as warehousing. Elsewhere, industrial estate projects are at various stages of planning. In the majority of cases, the Governments already receive some technical assistance from the United Nations and rely on further assistance from the Organization. However, for the implementation of the projects, financial assistance is being sought from various sources.

As compared with 1964, there is little change in the number of countries in which industrial estates are in operation. In 1964, industrial estates existed only in Nigeria and the United Arab Republic. At the beginning of 1970, the number of countries has increased to four, Kenya and Senegal having also developed industrial estates in the meantime. In Kenya, a model industrial estate is successfully operating, its 25 factory units being selected and 15 of them occupied by African enterprises, the only ones in the country. The first industrial estate in Senegal at Thies is not a model development since it makes use of military barracks which do not necessarily provide the best premises for industrial undertakings. Yet, after initial difficulties, the project has succeeded in stimulating the emergence of 3 dozen Senegalese enterprises, again the only ones in the country. In Ghana and Zambia, industrial estate premises are partly used for storage purposes, a result which is not commensurate with the expense incurred in and the purpose of the project. In Uganda, the Special Fund project approved in 1966 is operational since 1967, but the estate is still not constructed. In Zambia, a project involving industrial estate development in provincial centres and rural areas has been approved by the Special Fund in 1967. The Government of Niger and Upper Volta have officially submitted requests to UNDP (Special Fund) in the beginning of 1970, each requesting co-operation with the development of an industrial estate, and a centre for small-scale industries (and handicrafts). Special Fund requests have been prepared in four other countries - Liberia, Madagascar, Rwanda

and Togo - but have not been submitted so far. In three more countries - Cameroun, Congo (Democratic Republic of) and the Sudan - Special Fund requests for assistance are being prepared by experts in the field. The preparation of Special Fund requests or further assistance under other programmes are included in the terms of reference of experts now serving in or being recruited for:

Botswana, Central African Republic, Chad, Dahomey, Gabon, the Ivory Coast, Lesotho and Swaziland.

On the basis of these projects, it may be assumed that, by 1974 or 1975, industrial estate projects will have materialized in more than 20 countries of the region. But the developments that took place until now indicate that serious obstacles would have to be overcome if this were to be achieved.

What are, indeed, the reasons for the very limited development of industrial estates today? The first reason, undoubtedly, is that African countries came only recently to the realization of the importance of small-scale industry as a means of promoting indigenous entrepreneurship and of the role of industrial estates in this connexion. Requests from countries of the region in this field began to be submitted to UNIDO and to UNDP in the past four to five years.

Another fundamental reason is that industrial estates call for heavy investment in land, infra-structure and buildings, whereas most African countries are desperately short of financial resources and are faced with competing needs in practically all fields - agriculture, basic infra-structure, health, education, industry and so on. Many of the industrial estate projects already formulated are inactive because of lack of finance, and this situation may well prevail in the future unless two conditions are fulfilled. First, that Governments should recognize that the development of a national, African industry is a priority objective which justifies the diversion of increased financial resources from other purposes, necessary as these may be. Second, that multilateral and international financial agencies should recognize that assistance to African countries to facilitate investment in industrial estates (and also to channel funds to national credit institutions for loans to small-scale industries) is a desirable use of their funds.

There is evidence that progress is being made in these two directions. The Yaba estate in Lagos (Nigeria), the estates in the UAR and the Thiès estate in Senegal

have been financed by the national Governments. The Nairobi estate (Kenya) was built with a long-term, low-interest loan from the Government of the Federal Republic of Germany. The infra-structure in the future industrial estate of Kigali (Rwanda) is being financed by the European Development Fund (EDF). This organization has been approached for similar assistance by several other governments, e.g. Niger and Upper Volta, and negotiations are currently underway.

It may be recalled, in this connection, that the International Symposium on Industrial Development, convened by UNIDO in Athens in 1977, recommended in its discussion of small-scale industry that "international financial organizations, such as the World Bank and the Industrial Development Association, and regional financial institutions, such as the Inter-American Development Bank, and the African and Asian Development Bank, should be requested to review the possibility of increasing their support for financing industrial estates. They should also review the possibility of channeling funds towards national credit agencies for extending loans to small-scale industries". Should the support of international and multilateral financial organizations, as well as of governments under bilateral arrangements be extended in the near future, a major obstacle to the implementation of industrial estate projects would have been removed. A substantial financial contribution of the national government will however remain indispensable in all cases.

The fact that only a few industrial estates are now in operation is partly explained by the inadequacy on the part, in most African countries, of industrial extension centres able to provide guidance and assistance to prospective and established entrepreneurs in the choice of industry and in technique, management and marketing, as well as in the facilitation of financing by public and private banks. Without such services, indeed, industrial estates may remain empty or be only slowly occupied and some Governments may hesitate to set them up as long as industrial extension centres are not established or are not fully effective. It is for that reason that all the industrial estate projects now being assisted by UNIDO provide, as an integral part of the project, for the creation (and in a few cases the strengthening) of an industrial extension centre.

It is no accident that, in three out of the four countries where industrial estates are in operation, there are industrial extension agencies which have been able to assist in the planning and the development of the estates. In Kenya, the

Industrial and Commercial Development Corporation (ICDC), in Senegal, SIDA; and in the U.N., the Institute of Small Industries.

Not many such centres exist today in Africa. ~~Of~~ those listed above may be added the Agency for Promotion Industrielle et Artisanale (A.P.I.A.) in Gabon, and the Office de Promotion Industrielle Ivoirienne (O.P.I.) in the Ivory Coast. Both agencies intend to develop, with U.N. assistance, industrial estates, and O.P.I. has already set up a few factories on the industrial zone of Abidjan, near Lilaville.

In order to give impetus to the establishment of industrial extension centres with United Nations assistance, in particular under SIDA (Special Fund), a programme of joint U.N. - ILO missions has been devised. Two missions were carried out in 1965 in, respectively, the Democratic Republic of Congo and India, and further missions will be carried out, in 1966 and subsequent years, in a number of regions, including Africa. Efforts to establish a small industry development centre in Hana are made by SIDA and ILO, with the co-operation of the Government of India, which is ready to provide equipment for the workshop of the centre.

Another partial reason for the limited development of industrial estates in African countries is the lack of thorough feasibility studies on the types of industries which can be set up on a small scale in various localities of those countries. This reason is closely linked to the procedure, or the inadequacy of extension agencies - since it is one of the main functions of these agencies to undertake such studies. It is indeed in the light of such studies that the physical planning of the estates should be carried out - the type, size and number of the standard factories, the schedule of their development, the type and size of common facilities - all depend on the types of industries that will locate on the estates, and on the rate of their establishment and growth. These studies are also essential to give a rational orientation to prospective entrepreneurs.

In most of the industrial estate projects for which requests have been prepared for SIDA (Special Fund) assistance, the undertaking of feasibility studies will be a task of fundamental priority, as it will be a pre-requisite for the final planning of the industrial estates.

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1. In Senegal, the Yaka industrial estate was set up by the Federal Government.

Another relevant consideration is that technical assistance for the establishment of industrial estates has not yet been provided on a sufficient scale. Without such assistance, it is unlikely that estates could successfully be planned, constructed and occupied. In many cases, technical assistance was needed - and was or will be provided - for making a preliminary study of an industrial estate project and to estimate, even roughly, its cost. It is because industrial estates call for large-scale and long-term investment that so many requests are addressed to UNDP (Special Fund).

An important question may be discussed at this point: can small-scale industry be developed, in African countries, without having recourse to the industrial estate?

In a general way, the existence of promotional institutions and special facilities such as industrial estates is nowhere an absolute pre-requisite for industrialization, including small industry development. In several developing countries, small industrial establishments have been created in the absence of supporting facilities. However, their number has usually been modest, the quality of their products low, their costs high, and their rate of failure considerable. Because of the weaknesses and handicaps of smallness, such establishments are in need of assistance everywhere, including the industrial countries. It is indeed of great significance for the developing countries that, in such countries as the United States, the United Kingdom, the Federal Republic of Germany, France, Japan, and so on, special organizations have been set up to provide assistance to small-scale industries and, in several of these countries, industrial estates have also been created.

It is conceivable that, in some African countries, small-scale industries can be developed without recourse to the industrial estate, and perhaps even without recourse to the industrial extension service, but it is certain that such development would then be slow, haphazard and precarious. There are not many African countries, however, where such small-scale development has taken place. In most of these countries, there are neither extension centers nor industrial estates and there is no African small-scale industry either.



It is clear that, in the absence not only of an industrial tradition but of any African industrial enterprise as well, the creation of the first African entrepreneurs is a most difficult and challenging task. Undoubtedly, such an endeavour calls for maximum incentives. These that are needed above all are the promotion action of an industrial extension centre, able to stimulate entrepreneurship and to sustain it once established, and of a system of financing at liberal conditions, which would usually be closely linked to technical assistance. If the extension agency is able to provide every assistance, including obtaining land, building a factory for an already identified entrepreneur and giving it to him on rent or hire-purchase, small-scale industrialization can be promoted, though modestly and slowly. A real breakthrough can probably be achieved only if the maximum programme of incentives also includes at least one industrial estate, with standard factories built in advance of demand, ready for immediate occupancy, and some common service facilities. Once the first entrepreneurs are in business, the demonstration of what can be done with such assistance may be expected to bear fruit, and other potential entrepreneurs will come forward and, after a time, a spontaneous industrialization trend will be in evidence.

This explains why nearly all countries of the continent rely on the industrial estate for the promotion of indigenous small industries. At the same time, the shortage of resources and other difficulties have given the African industrial estate - whether existing or being planned - some distinct features, which are put in evidence by the projects described in the first part of this study. These features will be discussed now.

Most African countries begin by one pilot industrial estate project. This project will usually be located in the largest city (not necessarily the capital, though this is usually the case), where the best prospects for successful development exist and where the demonstration effect may be expected to be maximum.

The project will begin on a much smaller scale than in countries of other regions. The number of standard "advanced" factories will vary, in a first phase of say, 3 to 4 years, between 8 and 25, and the factory units themselves will be of relatively small size, their area varying between 30 and 600 square metres, the largest number of factories being in the smaller area size. In some of the poorest countries of the region, consideration is being given to begin by 2 or 3 standard

factories only and to build further factories only against a known demand. It is recognized, indeed, that, in the African context, the initial stages in the development of enterprise usually will be the most difficult, that the first enterprises will tend to operate on a relatively small scale, with few, general-purpose machines, and with raw material, and maintenance of part of the machine become possible. The growth perspective, however, is kept in mind in practically all new industrial estate projects, the structure being such as to allow that, with movable partitions, the space provided may be expanded in the same building and the total area of each building may, at some stage, be doubled in the future, the ratio of cover being maintained at a maximum of 50 per cent of the area of the plot.

Some of the existing industrial estate have been built without provision for expansion: there is no space for expansion in individual factory building and there is no land in reserve for expanding the estate. The result is overcrowding, the small industrial units crammed into areas which they have outgrown and which they cannot afford to leave for lack of adequate accommodation elsewhere. One of the estates was built as a "nursery" for small enterprises which were expected to meet their present needs after they had grown to a certain size. The estate was initially designed but, faced with an extremely high rate of inflation, the nursery estate turned out to be a failure due to the growth of enterprises, which were not intended to reach the stage at which they would have to leave the estate and to establish elsewhere and elsewhere. In addition, some of the present entrepreneurs are waiting in vain for their turn. The estate has since been prevailed for some years, the authorities are now becoming more to say, probably with much higher price, in adjacent areas of land and to construct additional factories on it. A second industrial estate is being planned in the vicinity.

In order to achieve economy, factory buildings are usually constructed with light materials, some of which may be locally produced. Light open frame provides savings in construction and, at the same time, is adapted to the prevailing hot and humid climate. In all projects, an attempt is made to erect light but sturdy and durable constructions, and to achieve economy, but not to the point of shabbiness, if noticeable.

The smallness of the first stage of factory construction is paralleled by the modesty of the common services included in the estates. Initially, these consist usually of a mechanical workshop, with tool room and heat treatment shop, with only the minimum equipment called for by technological considerations. In a number of cases, a small testing and quality control laboratory is also provided for during the first phase. In the course of time, the number of factories and the size and, sometimes, the type of the common service facilities will normally be expected to expand.

The first phase, which ranges usually from 3 to 5 years, will normally be followed by an assessment period after which construction in advance of demand will normally accelerate, though it might possibly sometimes slow down. If the project has been successful - that is, if all factories have been rapidly occupied by enterprises showing a satisfactory level of productivity - entrepreneurs may come up who would be willing and able to put up their own buildings. There are indications that, in some countries, entrepreneurs would prefer to do so, especially because they feel that they could build at lower cost than the government or the contractor officially appointed to construct the estate.

Whether this happens or not, the possibility of offering only improved land rather than advanced factories is contemplated in several projects in African countries. While industrial area projects offering only land and infra-structure have been developed in several of these countries - Democratic Republic of Congo, Ghana, Kenya, Nigeria, Sudan, United Republic of Tanzania and Zambia - they have not justified the hopes and expectations for small industry development - evidently, the areas were not a sufficient incentive. Such areas, however, may suffice to attract large-scale and medium-sized industries, and, in some cases, small industries able to construct their factories themselves. The combination on the same or neighbouring tracts of land of an industrial area for industries of all types and sizes and an industrial estate for small-scale industries (or, which comes to the same thing, the adoption of a flexible land-use system on a sufficiently large tract) achieves not only economies in development and construction, but also better urban planning and zoning, and industrial integration through the development of inter-industry and service linkages and of subcontracting between large and small industries. Industrial areas are to be developed together with a pilot industrial

estate in Liberia, Madagascar, Niger, Rwanda and Upper Volta. In Kenya, Nigeria, the Sudan and Tanzania, estates are to be developed on vacant parts of existing industrial areas.

The first pilot industrial estate is expected, in African countries, not only to induce small industry development in the locality where it is set up, but also to stimulate the growth of industry, commerce and services in the neighbourhood and in the outlying areas. It is also expected to provide lessons for the development of small-scale industry - in many cases through industrial estates - in other parts of the country. Most African countries, as also countries in other regions, intend to develop industry on a decentralized basis and will rely, among other things, on the industrial estate to achieve this objective. Thus, the Government of Kenya proposes to develop, in the light of the experience gained in Nairobi (where a second stage of factory construction is under way), industrial estates in Mombasa and Nakuru. The Government of Senegal, which started its industrial estate in Thies because of the existence there of vacant military buildings, proposes to build several estates in the Cap-Vert (Dakar) area (at Dakar itself, at Thierye and Pikine), and then to try the device at the main provincial towns (at Ziguinchor, St. Louis, Tambacounda, Kadiack and Diourbel). In the Sudan, a first industrial estate is to be set up at Ondurman (near Khartoum) and New Halfa, Wadi Hedani, Kosti and Kassala are further locations for future industrial estates. In Cameroun, a pilot industrial estate is expected to be established at Douala with the assistance of UNDP (Special Fund) and UNICEF, but already three other locations for industrial estates, at Yaoundé, Ombé and Maroua, have been selected by the Government to be developed as soon as possible after the pilot project. In Zambia, however, where only a small "nursery" estate exists at Lusaka, the Government proposes to embark, with Special Fund assistance, in a programme of construction of estates in some provincial towns.

It may be assumed that, in the provincial towns of most African countries, the industrial estate will, at first, take the form of a small cluster of workshops, some of which might even be allotted to artisans, either with a view to upgrading them in their trade or to transform them into modern industrialists. The provision of technical assistance will be indispensable to achieve this.

It is noteworthy that in nearly all industrial estate projects - existing or planned - in African countries, reliance is placed on foreign technical assistance, and, in many cases, on foreign financial assistance, to execute the projects. The UNDP (Special Fund) and other programmes of technical co-operation of the United Nations, and bilateral programmes, in particular those of the Federal Republic of Germany and of India, have already contributed, and will further contribute technical assistance for the planning and implementation of such projects. In most cases, assistance for the planning and construction of industrial estates will be part of a comprehensive programme of development of small-scale industry, including the establishment or strengthening of an industrial extension centre, the undertaking of feasibility and pre-investment studies, and the facilitation of financing. Since small industry development (and the occupation of industrial estates) is a long-term endeavour, the assistance may be expected to be provided for a relatively long time. While the policy of the UNDP (Special Fund) is to provide initially assistance to "mini-projects" of about three-year duration, a mid-term review of the project is normally provided by the Plan of Operation, with a view to assessing the need and form of further assistance.

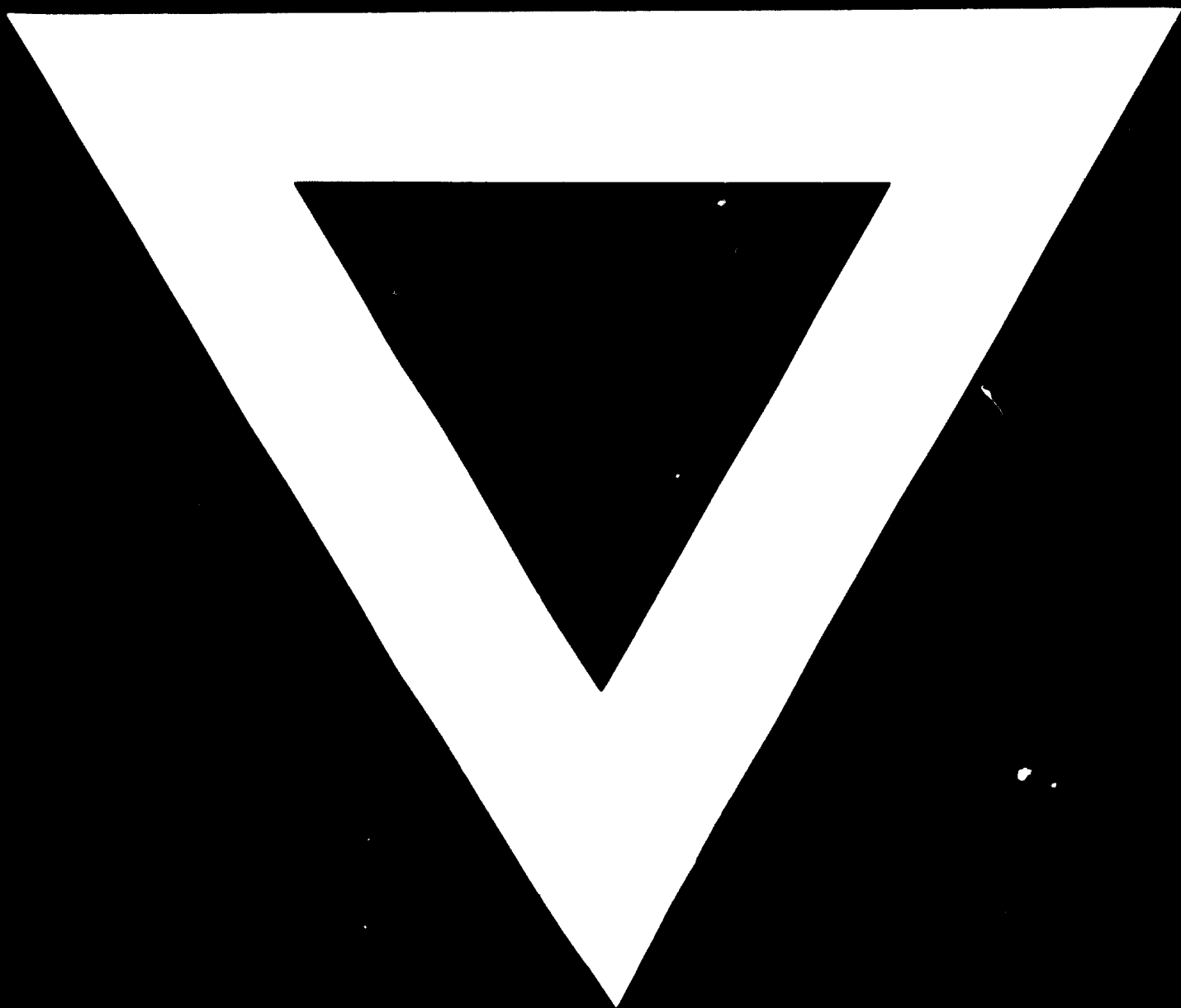
Financial assistance is of equal importance for industrial estate projects which are expensive, no matter how one may try to reduce the costs. Investment in industrial estates usually does not involve much foreign exchange - a fact which, so far, has been one of the obstacles to international financing of such projects. Some international financing organizations are bound by statute to finance only projects requiring convertible currencies for investment, imported materials, equipment and machinery. Industrial estate projects require mostly local currency for investments in infra-structure, standard factories and other buildings, etc., particularly when local building materials are used in an attempt to reduce costs.

One multilateral source of financing, the European Development Fund (EDF), however, has already made available financial assistance for the development of infra-structure in industrial estates and areas and appears to be ready to consider, in some cases, even the financing of machinery of the occupants. One example is the financing of infra-structure by the European Development Fund in the industrial area and estate at Gikondo near Kigali, Rwanda. Several other French-speaking countries are negotiating to obtain similar assistance from the Fund.

Bilateral assistance is another possibility of obtaining the required financial assistance, as was for instance the case in Nairobi, Kenya, where the Federal Republic of Germany provided both financial and technical assistance for establishing the industrial estate.

The above analysis indicates that industrial estate development in Africa raises problems and calls for solutions which are largely different from those observed in other developing regions. To provide guidance in their establishment in African countries, a thorough evaluation of their performance and their utilization would be needed. Unfortunately, the number of industrial estates in operation is, so far, so small and progress so recent, that a statistical assessment is not possible at this stage and, as a result, industrial estates, in countries where they do not exist so far, will have to develop themselves on a trial and error basis.





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