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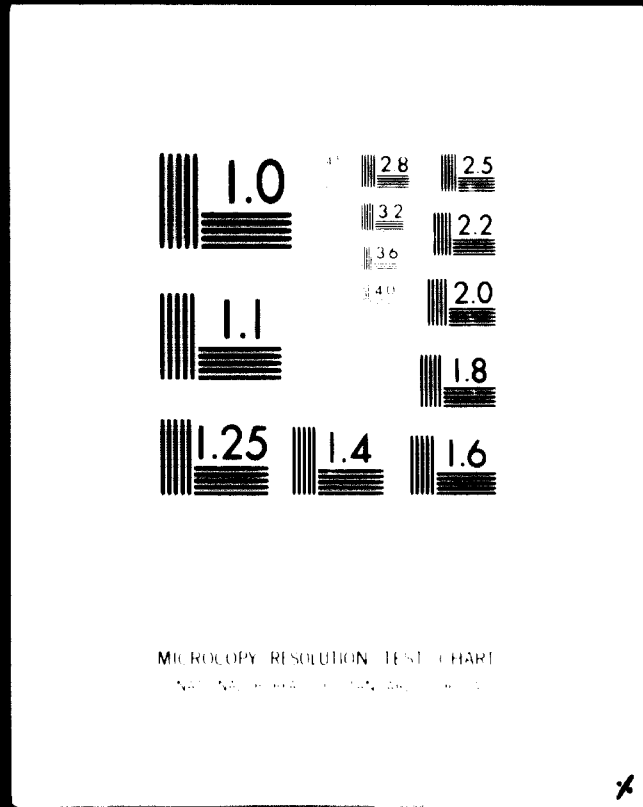
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NICHOLAS KONSOLAS

**AN APPROACH  
TO INDUSTRIAL LOCATION  
POLICIES .**

*A Report submitted to:  
The United Nations Industrial Development Organization and  
The S.I.E.T. Institute - Hyderabad - India*

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## UNITED NATIONS INDUSTRIAL ESTATES PROGRAMME

*“Experience in developed and in many developing countries has shown that Industrial Estates have contributed significantly to the goals of national economic and industrial development and of urban and regional planning. Many nations have recognized that Industrial Estates are effective catalysts for regional planning. Because of the obvious advantages of such an organized tract of land under a unified development and management, the estates now form a part of the strategy for industrial, regional and national development in most developing countries.*

*Over the last few years, there has been a growing interest in pooling the experience of countries who have set up industrial estates and faced various problems relating to the programme. The various studies made by the United Nations and other agencies are manifestations of the awareness of the need among nations to bring forth their experiences and problems with a view to further improving the techniques available for planning and organizing industrial estates.*

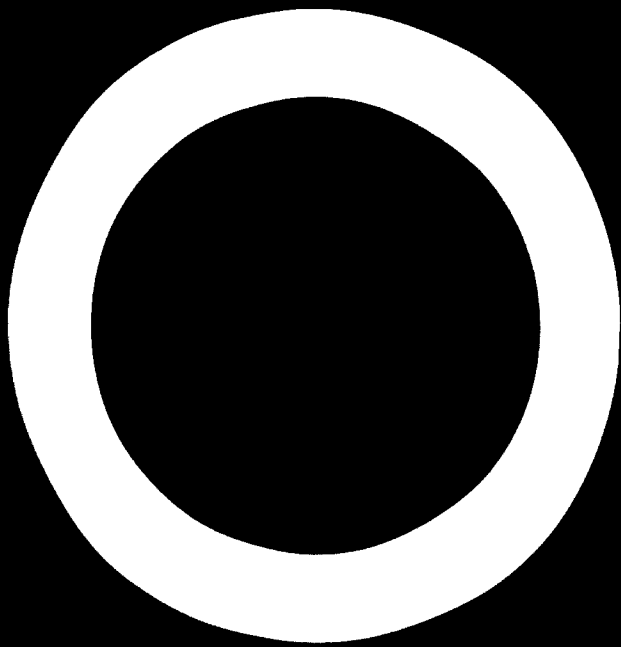
*While some of the programmes on industrial estates have been organized in institutes like the Research Institute in Management Science, Delft, Small Industry Extension Training Institute, Hyderabad, and Stanford Research Institute (U.S.A.), as part of their small industry training programmes, no comprehensive, systematic course on industrial estates planning, organization, management, financing, has been organized so far. Further, no programme of visits combined with in-project training has yet been devised in any institute on any significant scale. To bridge this gap, a Group Training Programme on Industrial Estates is being held at the Small Industry Extension Training Institute, Hyderabad, from 19th January till 28th March 1969 under the joint sponsorship of the Government of India and the United Nations Industrial Development Organization. The S.I.E.T. Institute is conducting this course in cooperation with the Small Scale Industries Development Organisation, Government of India; the State Governments of Andhra Pradesh, Maharashtra, Madras, Mysore and Delhi where study visits will be made; and the School of Planning and Architecture, Delhi which has experts in the field of physical planning and civil engineering aspects of industrial estates”.*

(UNIEP - SIET HANDBOOK)  
January 1969

*"This report has been prepared by the participant of the Group Training Programme on Industrial Estates held at the S.I.E.T. Institute, Hyderabad. The views expressed in the report are of the concerned participant".*

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## INTRODUCTION

*The Ministries of Coordination and Industry and the Hellenic Industrial Development Bank, having taken into consideration the usefulness of the United Nations Industrial Estates Programme, decided to nominate a participant in it. This decision was made especially because the objectives of the programme were set up in such a way as to cover the various aspects of industrialization in relation to the use of different types of industrial estates on the one hand, and their planning, management and financing on the other.*

*Besides, at the present stage of implementation of the industrial areas project in Greece, the Indian experience is of great value in every respect.*

*Now, at the end of the programme, we can observe that it not only succeeded in meeting fully its objectives but, it also focused on every detail of the entire industrial estates problem, through four integrated and inter-related approaches :*

- (a) Social and economic.*
- (b) Administrative and technical.*
- (c) Operational (study on the field) and*
- (d) Critical (evaluation by the participants).*

*It must, moreover, be mentioned that the success of the programme has been the result of the coordinated effort of UNIDO, SIET and the other Indian Government officials as well as of individual industrialists.*

*The man who first conceived the idea of organizing this training programme is Mr. Krestovsky of UNIDO, whose devotion to the industrial estates progress is already well known to all developing nations.*

*Dr. Alexander, the Joint Secretary in the Ministry of International Trade and authority in this field gave the broad scientific aspect of the subject.*

*The dynamic Development Commissioner of Small-Scale Industries, Mr. Nanjappa, offered his full support in bringing the programme into realization with the valuable assistance of the Industrial Estates Director of his Office, Mr. Mathai.*

*The continuous guidance of the Principal Director of S.I.E.T., Mr. Malgavkar, the active presence of the Director, Mr. Chebbi, and the hard work of the Course Coordinator, Mr. Mathur, were the*

*decisive factors of the success of the project, from the administrative as well as the academic point of view. Mention should also be made of the contribution of the S.I.E.T. Faculty Members — Messrs. Ghiara, Verghese Eapen and Subba Rao.*

*The disputed and difficult subject of physical planning of industrial estates was thoroughly illuminated by Professors Manicham and Ghosh and Mr. Mittu of the School of Planning and Architecture, New Delhi.*

*Concluding this introduction, thanks should also be expressed to the Directors of Industries, the Directors of SISIs, the Administrative Officers of Industrial Estates and the occupants of sheds in the States of Andhra Pradesh, Mysore, Tamilnadu, Maharashtra and Delhi Union Territory.*

*Hyderabad — March 1969*

*N. KONSOLAS, Ph.D.  
Economist, Hellenic Industrial  
Development Bank*

## I. THE GREEK INDUSTRIAL AND ECONOMIC DEVELOPMENT<sup>1</sup>

A brief survey of the economic development in Greece shows that the country has made a rapid progress in industrialization during the post-war period. The favourable geographic location of the country and its association with the European Economic Community (1961) has made possible the establishment of a large number of industrial concerns. The monetary stability, furthermore, the entire social and economic infrastructure and the growth of the local market pushed the country to a remarkable stage of development.

The GDP at constant 1958 factor cost was 135,822 million drachmas in 1966, as compared with 64,470 million in 1953. The steady industrialization of the country is also apparent in the following changing pattern of GDP:

	1953	1966
Agriculture	31.9	22.3
Industry	19.7	29.6
Services	48.4	48.1
	100.0	100.0

The average annual rate of increase of industrial production rose to almost 10% for the five-year period 1962-1966 and the GDP growth rate (7.7%) has been among the highest in the world.

1. The data and information included in this section of the report are taken from:

—Hellenic Industrial Development Bank, *Greek Industry in Perspective*, Athens, 1967.

—Ministry of Coordination, *Economic Development Plan for Greece, 1968-1972*, Athens, 1968.

The per capita income, which has almost been doubled since 1953, is estimated to have attained, in 1967, the level of \$ 710.

Greece's fixed capital formation of 23% in 1966 approximates the 1965 average for the European Economic Community countries.

The 1968-72 Economic Development Plan of Greece, which began to be applied in January 1968, aims at a higher standard of living, through rapid economic development. The specific targets of the Plan are the following:

1. To attain an average annual rate of growth between 7.5% and 8.5%;
2. To maintain and reinforce monetary stability;
3. To achieve a marked increase in productivity, so as to reduce the real cost of production, improve competitiveness and make concrete progress towards adaptation of the economy to economic conditions of the EEC countries;
4. To bring about radical changes in the composition of production, investment and the balance of payments. Of particular importance in this respect are, first, the planned re-direction of investment expenditure into the more productive sectors of the economy, second, the modernization of basic infrastructure (electric power, telecommunications, land reclamation projects etc.) and third, the creation of complexes of projects instead of isolated and functionally un-related projects;
5. To create 350,000 new employment opportunities with the purpose of increasing total employment by 190,000 persons and transferring 160,000 persons from low to high productivity occupations. Of this total, 110,000 persons are expected to be drawn from the agricultural sector.
6. To effect substantial improvements in the distribution of income among the different social groups

(e.g. more rapid increase in the incomes of farmers and wage earners) and to reduce existing inequalities in the opportunities for economic advancement (abolition of closed professions, privileges, etc.);

7. To accomplish a more rational distribution of basic infrastructure and economic activity among the various regions of the country;
8. To introduce important institutional reforms, especially in public administration, the labour market, the capital market and the tax system.

## II. INDUSTRIAL AREAS PROGRAMME IN GREECE

### A. Objectives

The advantages of industrial estates and industrial areas were recognized some years ago, and a number of feasibility studies were carried out by the Société Centrale pour l'Equipment du Territoire, Stanford Research Institute, P.E. Consulting Group, Doxiadis Ass., and others.

In 1965, a law<sup>2</sup> concerning the industrial estates and areas<sup>3</sup> policy was enacted (No 4458/65). According to this law the Hellenic Industrial Development Bank

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2. See p. 15.

3. UNIDO (Policies and Programmes for the Establishment of Industrial Estates, 1967) has adopted the following definitions:

- «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».
- «The industrial area is a tract a land offering only sites with the necessary infrastructure - power, water, roads, sewerage etc.».
- «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».

The industrial areas in Greece will offer sites not only «with the necessary infrastructure», but also with a variety «of services and facilities» (Royal Decree 750/68-Art. 12).

It is important to note that Law 4458/65 does not differentiate between industrial estate and industrial area. It gives the term «Βιομηχανική Περιοχή» (Viomihaniki Periohi) such a flexibility that it can include any type of industrial estate or industrial area.

«shall have the privilege of organizing and operating industrial areas».

This function was assigned to the Hellenic Industrial Development Bank<sup>4</sup> because it is acting as the Central State Agency for investment in Greece. The main objectives of the industrial areas programme are the following:

### 1. Regional Development<sup>5</sup>

The regional development policy of the country aims at creating «carefully selected industrial areas»<sup>6</sup> with all facilities in order to promote a rational distribution of the industrial activities.

### 2. Industrial Decentralization

The industrial areas programme related with other incentives is one of the main positive means towards decentralization of the industry.

### 3. Foreign Investment Promotion

The availability of developed plots increases the possibilities of foreign investments and reduces the expen-

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4. Hereafter «Bank» will be used instead of «Hellenic Industrial Development Bank». According to Law 4366/64 by which the Bank was established, its aim is to further the overall industrial development of the country:

- By supporting, either in the form of credit or of equity participation, projects for the improvement, expansion, integration and modernization of the operations of existing industrial enterprises or of enterprises aiming at the development of the country as well as by establishing new ones.
- By attracting foreign capital for productive investments in the country, and
- By assisting in the development of a capital market.

5. William Bredo, *Industrial Estates - Tool for Industrialization*, Stanford Research Institute, 1960, pp. 40-45.

6. Plan, p. 42.

ses and the time needed for carrying out the project.

#### 4. Modernization of Medium and Small- Scale Industries

Special measures<sup>7</sup> are being taken by the Greek Government for the modernization of the small-scale industries. One of the most important is the organization of industrial estates; specifically, the Plan maintains that «the rationalization of a number of branches of Greek craft industries will be facilitated by the concentration of these small enterprises, by branch, in special-purpose estates. This measure would encourage contracts and mergers as well as common solutions to common problems; such as, purchase of raw materials, promotion of exports, etc»<sup>8</sup>.

#### B. The Implementation of the Programme

The industrial areas programme will be implemented in three stages:

##### First Stage

During this stage, which has already started since 1968, two industrial areas are under construction: one in Thessaloniki and the other in Volos. Both are connected with the respective cities which have a tradition in industry. Thessaloniki's industrial area co-

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7. UNIDO, Problems and Limitations of Small - Scale Industry: The Greek Experience, 1967. Some of the measures are the following: (a) Establishment of a new Small Industry Development Service (U.N. Technical Assistance); (b) Special incentives for small industries established in industrial areas; (c) Lower rate of interest than that of the industry in general; (d) Exemption from turn-over tax; (e) Simplest book - keeping regulations; (f) Training, and (g) Increased financing possibilities.

8. Plan, p. 79.



vers approximately 3,400,000 sq.m. and that of Volos' 2,500,000 sq.m. The demonstration effect of these two areas is expected to be impressive. The demand for developed plots in both cases is already great. Although the Thessaloniki industrial area is still under construction a factory of the American Corporation «Goodyear» has already been erected within it.

Provisions are made for the establishment within the areas of Thessaloniki and Volos of industrial estates for small industries and free-customs zones for export oriented industries.

According to the lay-outs of the areas, apart from the complete infrastructure, all kinds of common facilities and services will be provided to the occupants<sup>9</sup>.

### Second Stage

The industrial areas of Patrai and Iraklion will be completed during the second stage of the programme. The expropriation procedure for acquiring the land has already started and most of the surveys are being carried out.

### Third Stage

During this stage industrial areas, conventional and functional industrial estates and single-trade areas will be established in the greater area of Athens, in Kavalla, Preveza and Chania.

The programme of the third stage is under consideration and finalization depending upon the experience which the staff of the Bank will gain during the previous stages and upon the development of the country's economy in the future.

## C. Industrial Areas Policy<sup>10</sup>

The various conditions and terms under which the

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9. See p. 22.

10. Analysis of Law 4458/65 and of some articles of Law 4171/61.

Hellenic Industrial Development Bank should function, as far as the industrial areas programme is concerned, are provided by Law 4458/65 as follows:

### 1. Location

The location of an industrial area is the subject of joint decision issued by the Ministers of Coordination and Industry. The opinion of the Board of Directors of the Bank is required for the issue of the above decisions. Due to the established policy, the respective Directorate of the Bank in charge of Industrial Areas should undertake all the appropriate surveys and then submit a feasibility report with fully justified suggestions to the Board of Directors.

### 2. Types of Industrial Areas and Estates<sup>11</sup>

The law provides the possibility of establishing any kind of industrial estate or industrial area. Generally, it mentions that the Bank can carry out such projects for the purpose of establishing individual en-

#### 11. Classification of industrial estates:

##### I. On the basis of location.

1. Urban
2. Semi - urban
3. Rural

##### II. On the basis of industrial activity:

1. Conventional or Composite
2. Single - trade
3. Ancillary
4. Functional

##### III. On the basis of sponsorship:

1. Government : a. State, b. Special Agencies, c. Financial and/or Development Organizations.
2. Private: a. Cooperative, b. Private Business, c. Private-assisted by the Government.

terprises or groups of enterprises. Besides, the erection of standard factory buildings for the housing and operation of small or medium units shall be among the alternative courses of action of the Bank.

An important possibility from the technological point of view is that the Bank can erect individual factory buildings upon request of enterprises on the basis of special installation plans with the purpose of transferring or leasing them to such enterprises. In the case of cooperative or private industrial estates, an agreement between the sponsor and the Bank is required.

### 3. F r e e Z o n e

An industrial estate or part of it may be recognized as Free Customs Area in which industrial units can operate. Goods produced within these areas are liable to the current custom duties only when they are consumed within the country. The main objective of these areas is to facilitate export oriented industries.

### 4. L a n d A c q u i s i t i o n

The acquisition of land required for the development of industrial areas or for the housing of the workers may be effected through compulsory expropriation in favour of the Bank.

Land belonging to the State may be transferred to the Bank.

### 5. I n f r a s t r u c t u r e a n d C o m m o n F a c i - l i t i e s

The Bank is responsible for providing the infrastructure and the common facilities in the areas. Besides, utility enterprises may be established within the industrial areas for the purpose of rendering services to other enterprises or to the workers.

## 6. Sales or Lease Policy

The establishment of an enterprise in the industrial areas shall be effected either by a transfer of ownership or by lease or other contractual obligation under terms agreed between the Bank and the occupant<sup>12</sup>.

## 7. Incentives

a. Any legal act relating to the transfer by the Bank to the occupant of any right of ownership or lease shall be exempted from all taxes, duties and other fees.

b. The existing duties and other charges to be levied, in future, in favour of the State or a third party on loan contracts referring to credit granted to the occupants or on the institution or extinction of a mortgage or security for the guarantee of loans or credits shall be reduced to one-fifth of their amount.

c. Enterprises transferred to or established within an industrial area shall be exempted from payment of transfer or income tax in respect of the proceeds of the sale of sites, realties and other installations held by them, provided that such proceeds are used entirely for their installations within the area.

d. Machinery, accessories, construction materials, research instruments, vehicles, etc., shall be exempted from all taxes, duties, etc., whether or not such items are produced by local industry and provided they are necessary for the establishment of an enterprise in an industrial area.

e. Reduction of all duties for construction and assembly of plants.

f. The terms and conditions under which enterprises may be established in industrial areas may differ from district to district depending on the level of economic development of each such district. For regional development purposes the prices of plots of industrial areas

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12. See p. 21.

may be fixed at levels higher or lower than the cost of acquisition and development of the areas.

## 8. Main Restrictions

a. Any alteration of the object of production of enterprises without written approval of the Bank is prohibited.

b. Sites, buildings and installations in an industrial area may be leased even for long periods of time but they may not be sub-leased without the express consent of the Bank.

c. In the relevant lease agreements the consequences of an eventual stoppage of operations of the enterprise installed therein as well as the future of any installations erected thereon must be provided for.

## 9. Financing

Expenses incurred by the Hellenic Industrial Development Bank for the purchase of land in order to develop industrial areas and also for the development of such areas, the erection of housing facilities for the workers and the landscaping of adjacent areas shall be met partly or entirely by the State, the relevant item being appropriated to the Bank.

The Bank may issue bonded loans in order to buy out land or finance industrial areas.

According to the present policy, the development of the industrial areas is financed by the Bank (60%) and the State (40%).

## D. Operation Regulations<sup>13</sup>

The basic rules concerning the operation of industrial areas in Greece are the following:

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13. Analysis of Royal Decree No 750/68.

## 1. Admission

An enterprise wishing to establish itself in the industrial area must submit an application to the Bank with a comprehensive financial and technical statement.<sup>14</sup>

14. The statement must include the following information:

### I. Present Status of the Enterprise

1. A brief report on the previous activities of the Company.
2. Legal form.
3. Management (Names and Addresses).
4. Balance sheets and income statements of the last three years.
5. Equipment.
6. Number of Employees.
7. Production and Distribution policies.

Note: The newly established enterprises do not answer questions No 1,4,5,6, and 7.

### II. The New Project

1. What is the use to which the plot area will be put to:
  - For production building.
  - For office and other ancillary buildings.
  - For open space, etc.
2. Architectural drawings: Lay-out - Sections - Elevations - Topographical, etc.
3. Requirements of:
  - Electric power
  - Telephones
  - Water
  - Access roads
  - Sewerage pipes
4. Production capacity planned.
5. Number of workers to be engaged.
6. List of machinery to be installed.
7. Budget of the project.
8. Profitability of the project.
9. Date by which:
  - The construction of the factory building will start.
  - The construction is expected to end.
  - The production process will start.
10. Special economic and technical terms as far as the sales agreement is concerned.
11. Waste composition.
12. Odour, smoke, and noise specific problems to be met.

The Bank shall duly decide for or against accepting the application within a maximum period of three months. The establishment of the enterprise within the industrial area shall be effected under terms to be agreed, in each case, between the Bank and the occupant. These terms shall refer to the manner of payment of the agreed price or consideration, the time of starting and of completing building works, the operation of the enterprise, consequences of default, etc.

## 2. Physical Planning

a. The development of an industrial area shall be carried out on the basis of a lay-out plan to be approved by the Ministry of Public Works at the instance of the Bank.

b. The minimum area of an industrial plot shall be 2,000 sq. m.

c. Every building structure must comply with all the terms and conditions required by the Law for the construction and safety thereof.

d. The maximum built space permitted for each site shall be a space equal to 40% of the total area of the plot. This ratio may be increased up to 60% under certain conditions.

e. Enterprises are required, for aesthetic reasons, to keep their buildings in good condition and provide suitable landscaping on the uncovered areas.

f. Any enterprise which produces industrial wastes requiring treatment other than a biological one, must take care of their treatment by its own means in compliance with the regulations currently in force.

g. Enterprises are required to strictly comply with current sanitary regulations and with any relevant instructions issued by the competent Health Authorities.

h. The Bank reserves the exclusive right to control the traffic of vehicles or pedestrians in the streets of the area and to deal with all traffic problems.

i. Street lights and sign-posts or advertisements shall be placed at the Bank's exclusive discretion.

j. Fencing of sites is compulsory and it shall be carried out on the basis of plans and specifications drawn up by the Bank.

### 3. Management

The industrial area shall be managed by the Bank through an Administrative Office having a financial-administrative and a technical service appointed by the Bank. The Office's Head must be an experienced economist or an engineer.

Furthermore, a Committee shall be formed to act as an adviser to the Administrative Officer of the area.

The Head of the Office shall be responsible mainly for the smooth operation of the area and the exact performance and application of the existing regulations and the terms of the sale or lease agreement.

Concerning the internal operation of the area rather strict provisions have been set.

### 4. Financial Charges and Services

The developer provides the occupants with cleaning and lighting services of spaces for public use, fire fighting system, and storage facilities against payment of charges specified by the Bank from time to time.

The Establishment and operation of a Police Station, Post Office, Telecommunication Office, commercial bank branch, offices or agencies or other public authorities or utilities completing the cycle of services provided to the occupants shall be left to the care of the developer to create a self-dependent centre of industrial activity.

Water, electricity and telephone rates shall be paid by the occupants to the agency which provided such utilities under contract. Expenditure connected with



the maintenance of water or electricity supply systems, telephone communications, sewers and roads shall be shared between the users of such facilities. In calculating these expenditure the developer should take into account the extent to which such facilities had been used by each enterprise or group of enterprises.

#### 5. Arbitration

Any dispute arising between the Bank and the enterprises installed in the area shall be settled by arbitration. The party desiring arbitration shall give the other party written notice to this effect specifying the object of the dispute and naming the arbitrator appointed by it and shall invite the other party to appoint its arbitrator. The arbitrators are not bound by any rules of procedure in carrying out the arbitration. The decision of the arbitrators shall be definite and irrevocable.

### III. THE INDIAN EXPERIENCE

#### A. The Shifting of the Objectives

The Indian Industrial Estates Programme, the biggest of its kind launched by any developing country, started during the First Five-Year Plan (1951-1955). The original objectives of the programme have been<sup>15</sup>:

1. To provide factory accommodation to small industries at suitable sites with facilities of water, electricity, steam, transport, banks, post offices, etc., and create the necessary atmosphere conducive to the development of small industries.

2. To shift small industries from congested areas to estate premises with a view to increasing their productivity.

3. To achieve decentralized industrial development in small towns and large villages.

4. To encourage the growth of ancillary industries.

5. To bring a number of small units together and thereby facilitate the establishment of common service centres.

The main emphasis of the programme was on the development of the small-scale industries. This target was successfully accomplished especially during the period of the Second Plan. A large number of new en-

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15. See on the subject:

—P.C. Alexander, *Industrial Estates in India*, Asia Publishing House, New Delhi, 1963.

—Development Commissioner, *Small Scale Industries, Study of Industrial Estates*, New Delhi, 1966.

—Development Commissioner, *Small Scale Industries, Industrial Estates in India*, New Delhi, 1967.

—P.M. Mathai, *Industrial Estates Programme in India*, New Delhi, 1969.

trepreneurs started small units of great importance for the overall social and economic development of the country.

During the Third Plan the industrial policy stressed the promotion of industries in the rural areas and small towns in order to reduce progressively the disparities in the level of industrial development between urban and rural areas. Besides, the state governments were advised to provide only developed sites in urban areas and leave construction of factory sheds to the individual entrepreneurs.

In the draft of the Fourth-Five Year Plan, it is proposed:

1. To provide developed sites in cities and large towns.
2. To set up a limited number of industrial estates in small towns and «Growth Centres».
3. To increase the number of ancillary industrial estates, and
4. To coordinate the industrial estates and areas programme with the housing and technical education schemes.

The gradual shift of the objectives from time to time and from State to State is due to the economic situation of a specific area, the needs of development, the economic policy of the country and a number of other factors.

A good example of the transitional period is the Ambattur complex where an industrial estate and an industrial area are integrated<sup>16</sup>. Some of the features of the Ambattur complex are also considered as nationally accepted guidelines, such as co-existence of small, medium and large industries, housing accommodation for the workers, etc.

Another example from an industrially advanced

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16. A Case Study prepared by a Group of the participants of the UNIEP on Ambattur and Madhavaram Industrial Estates, Hyderabad, 1969. (See p. 37).

state is the industrial area programme of the Maharashtra Industrial Development Corporation. The characteristics of this programme are directly related with the stage of development of the State. Its main objectives are:

1. Industrial decentralization and
2. Regional development

It is obvious that such objectives can be pursued even in developed economies. From that point of view, Maharashtra's programme can be considered «the pioneer» of the future development of the Industrial Estates Programme in India.<sup>17</sup>

#### B. The Industrial Estates Programme

The Indian programme is a big experiment in evaluating the industrial estates possibilities as a tool for industrialization. The size of the programme, the different types of the estates used, the various sponsors involved and the geographical distribution of the industrial estates reveal the value of the programme for the developing countries and the science of Industrial Economics.

During the last 13 years, 493 industrial estates have been sponsored all over the country<sup>18</sup>. Out of these, 311 have been completed and 248 have started functioning. Although the programme is in a continuous expansion, 182 industrial estates are under various stages of construction.

In the functioning estates, 7,600 worksheds are constructed, out of which about 6,500 are allotted and 4,800 are functioning<sup>19</sup>. The annual production in these industrial estates is over Rs. 900 million and the employment about 70,000 persons. According to the Govern-

17. For details on Maharashtra's policy see p. 30.

18. Minister, Shri F. Ali Ahmed: Inaugural Address, Small - Scale Industries Seminar, New Delhi, March 1969.

19. Mathai, op. cit., p. 2.

ment plans, the production of the units located within the Industrial Estates may go up even double after two or three years.

Out of 493 estates sponsored, 177 are located in urban areas, 184 in semi-urban and 132 in rural areas.

At the beginning of the programme the construction and the management of the estates was undertaken by the State Industries Departments. The establishment of two estates was, however, entrusted to the National Small Industries Corporation. Later on, the State Small Industries Corporations, Industrial Cooperatives, Joint Stock Companies, municipalities and private enterprises have started sponsoring industrial estates.

All types of industrial estates are functioning in India. Conventional industrial estates which provide accommodation for every kind of small industries, single-trade and functional estates, based on production specialization, ancillary industrial estates, under the guidance of the mother-company and industrial areas which are providing developed plots to small, medium and large industries.

The classification of the industrial estates in India, according to their size, is as follows<sup>20</sup>:

1. Large estates (over 30 acres):	80
2. Medium estates (between 30 and 10 acres):	112
3. Small and rural estates (under 10 acres):	52
4. Worksheds (under two acres)	4

This overall picture of the Indian programme gives the real dimensions of the effort which has been made in the field of industrial estates.

### C. Policies and Procedures

The established policies and procedures concerning

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20. Classification of 248 estates by the Lokanathan Committee.

the location, the construction and the operation of the industrial estates in India may be summarized as follows:

### 1. Location

Before establishing an industrial estate, a feasibility study has to be conducted to determine its location. This study has to examine the physical, economic and social factors affecting the development of the area. The findings of the survey will show the possibilities of successful operation of the estate under consideration.

### 2. Lay - out

The economic utilization of the land and the efficient operation of the estate are taken into account in planning the lay - out. To ensure these objectives, the following pattern is adopted:

Factory plots	60%	Roads	20%
Open space	10%	Administration buildings	10%

### 3. Sizes of Sheds

Standard sizes which are generally 20 ft., 30 ft. and 40 ft. and suit for functional requirements of small industries are adopted for factory sheds.

### 4. Infrastructure and Common Facilities

The trend is to create industrial sites with electricity, water, roads, sewerage system, tele-communication network and various common service facilities such as tool rooms, heat treatment, railway sidings, bank, show-room, etc.

### 5. Incentives

The main incentives are the following:

- a. Subsidy on rent up to 5 years particularly in case of estates located in rural and backward areas.

- b. Supply of machinery on hire purchase basis.
- c. Tax exemption - for occupants of some estates.
- d. In the cooperative estates, the industrialists pay only 20% of the cost of the sheds, before the construction is undertaken.

## 6. Financing

The construction and the management of the industrial estates is mainly the responsibility of the State Governments. The Central Government is giving loans under favourable terms to the State Governments for that purpose.

## 7. Sales or Lease Terms<sup>21</sup>

The Government of India is considering giving the option to the users to take the land and buildings on the hire purchase system or on a rental basis or on an outright basis. In the case of hire purchase, an initial payment of 20% of the price will be made. It is to be noticed that the responsibility in this subject will remain with the State Government.

## 8. Admission

The allotment of factory sheds in the industrial estates is done by the State authorities after inviting applicants. Special preference is given to industries using modern techniques and manufacturing articles which are important in the national economy, to defence - oriented industries and to industries managed by young technicians.

## 9. Technical Assistance

The Small Industries Service Institutes (SISIs) provide continuous and valuable assistance to the small units in the Industrial Estates.

<sup>21</sup> Mathai, op. cit., p. 7.

### D. Maharashtra's Policy

The long - range policy of the Government of India is to provide developed plots in industrial areas located in large towns and cities so that the industrialists can construct their own factories on their own plots. As it has already been mentioned, the Maharashtra Industrial Development Corporation has partly adopted this policy successfully. Because of the adaptability of this flexible policy to the Greek economic structure, a brief review of M.I.D.C. conditions of allotment is given in the following paragraphs<sup>22</sup>:

1. The plots are intended for erection of factories for industrial production. Construction of factories will have to commence within one year and be completed within three years from the date on which possession of the plot is offered.

2. The plots will be made available for the purpose of bona fide industrial use. The plot holders will not be allowed to let or dispose of their plots by sale or lease - hold interest or otherwise until two years after the factory has been erected and production has commenced.

3. Industries which are not obnoxious<sup>23</sup> will be per-

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22. Maharashtra Industrial Development Corporation, R o h a Industrial Area, Bombay.

23. List of Obnoxious Industries:

1. Fertilizer manufacture from organic materials, provided, however, that these provisions shall not apply to the manufacture of fertilizers from previously processed materials which have no noxious odours or fumes and which do not produce noxious odours of the compounding or manufacturing thereof.
2. Sulphurous, sulphuric, picric, nitric, hydrochloric or other acid manufacture or their use or storage except as accessory to a permitted industry.
3. Ammonia manufacture.
4. Incineration, reduction or dumping of offal, dead animals, garbage or refuse on a commercial basis.



mitted to be set up on the area's plots. The Corporation may, however, allow some chemical industries without serious effluent problems to be set up in the area.

4. The Corporation undertakes to provide within one year from the date on which the possession of the plot is handed over to the applicant (a) roads adjacent to the plots up to the standard determined by the Corporation and (b) water supply for industrial use. The Corporation will also help the industries in securing electric power from the Maharashtra State Electricity Board.

5. The Corporation will endeavour to provide facilities such as a Post and Telegraph Office, telephones, petrol pumps with service station, canteens, banking, warehousing and police outpost.

6. The occupants should submit their building plans

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5. Tar distillation or manufacture.
  6. Cement manufacture.
  7. Chlorine manufacture.
  8. Bleaching powder manufacture.
  9. Gelatine or glue manufacture or processes involving recovery from fish or animal offal.
  10. Manufacture or storage of explosive or fire — works.
  11. Fat rendering.
  12. Fat, tallow, grease or lard refining or manufacture.
  13. Garbage, offal or dead animals reductions, dumping or incineration.
  14. Stock - yard or slaughter of animals or fowls.
  15. Tallow, grease or lard manufacture.
  16. Paper and paper products.
  17. Charcoal.
  18. Manufacture of Viscose Rayon.
  19. In general those uses which may be obnoxious or offensive by reason of emission of odour, liquid - effluvia, dust, smoke, gas, noise, vibrations or fire - hazards.

(Source: Maharashtra Industrial Development Corporation).

to an officer designated by the Corporation for approval.

7. The leases will be granted for a period of 95 years, renewable for further periods of 95 years on payment of annual economic rent as shown below:

Nil for the first 2 years.

50% of the economic rent for the next 3 years.

Full economic rent from the 6th year onwards.

The Corporation reserves the right to revise the rate of economic rent once in every 15 years.

8. Furthermore, the specific terms of agreement between the Corporation and the occupants are covering every aspect in order to facilitate the operation of the area and maintain a healthy industrial environment. Some of the subjects are: building regulations, fencing, construction, indemnity, sanitation, insurance, nuisance, access roads, inspection, resuming of land, rent payment etc.

9. The economic rent of every area is calculated not only in relation to the figures concerning the specific area but also in relation to the figures of all the areas in the State and the promotion policy of the Corporation («balanced rent»).

#### E. Evaluation and Observations

Several Committees have evaluated the programme from time to time on a national or state level. Their recommendations helped the respective authorities in improving the entire programme.

Most of the criticism<sup>24</sup> of the industrial estates in India was directed against bad location resulting in the non-occupation of a large number of sheds. Specifically, the urban estates have proved to be a great success, most of the semi - urban are working satisfactorily,

24. SIET, Studies, Spring 1967, pp. 9-26 and Parliam. Estimates Committee. Hundred and Sixth Report, Part II, New Delhi, 1966.

but a considerable number of rural estates are lying almost vacant. It is important to add in this connection that now no estate is allowed to start without a proper techno-economic survey<sup>25</sup>.

A general, however, conclusion is that the industrial estates gave the nation a strong tool in its effort to meet the urgent industrial problems of the country, through the development of the small-scale industries and the creation of a new entrepreneurship. The impact of the industrial estates and their demonstration effect on the entire economic progress of India may be characterized as decisive.

The shifting pattern of their objectives, during the different stages of development and the establishment of all types of industrial estates are the two main policy measures toward the adaptability of the programme to the changing social and economic conditions of the country.

Many of the items manufactured by the small industries in the industrial estates were not made in the country previously. This is an additional element which stresses the importance of the industrial estates in the process of economic growth. It should be mentioned that the integration of the Industrial Estates Project in India with the small-scale industry development scheme is a major factor in their effect on the economy of the country.

The present policy, as far as the industrial estates expansion programme is concerned, is progressive enough and its reliance on the past experience is obvious. Nevertheless, some general remarks can be made:

1. The marketing problems and potentialities on local, national and international level should be taken into consideration in allotting the plots. The competitive and market forces must be gradually encouraged.
2. Administrative techniques and procedures in ma-

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25. Mathai, *op. cit.*, p. 6.

naging the industrial estates should be established on national level.

3. In the planning and lay - out of the industrial estates the previous experience should be studied more deeply.

4. The regulations of the operation of the estates must be stricter and measures should be taken to enforce them.

5. Improvement of the decision - making process in all levels of the administration of the industrial estates is needed.

6. The ancillary industrial estates should be organized on a competitive basis, in order to avoid the serious problems which will arise between the mother-company and the small units.

7. The hire - purchase system in allotting the sheds or the plots should be reinforced.

#### IV. RECOMMENTATIONS CONCERNING GREECE

The Indian experience can help in planning and implementing the industrial areas programme in Greece, in many respects, although there are many differences between the economies of the two countries.

The major specific recommendations resulting from the Indian experience are the following:

1. The organization of the industrial areas in the State of Maharashtra and the solutions that the M.I.D.C. is giving to the various problems are suitable for Greece, to a great extent.

2. The «balanced» price of the plots in different industrial areas in Maharashtra is an important tool in guiding incentives regarding the established regional policy.

3. The study of different lay - outs of industrial estates in India offers some very useful «standards» in implementing the similar Greek programme.

4. The procedures and the day - to - day work of the Administration of industrial estates are giving good examples in handling similar problems in Greece.

5. The Ambattur complex gives some important ideas as far as the industrial areas and estates programme in urban areas is concerned.

6. Single - trade and functional industrial estates are of great importance, especially in some metropolitan cities in Greece.

7. The modernization of the small - scale industry in Greece could be related with the admission and the incentives policy of the industrial areas programme.

8. The Greek Small Industry Development Service (Institute) could be organized to some extent according to the SISIs structure.

9. The industrial areas projects should be integrated with the housing, the technical education, and the town planning programmes.

## V. CASE DESCRIPTIONS <sup>26</sup>

During our stay in India we had the opportunity to visit and evaluate more than fifty industrial estates of all types and sizes. I thought it would be useful to describe very briefly five cases, which, in my opinion, reveal the status of the industrial estates programme in India. Every case presents a different type of estate or area and some of its main characteristics and problems.

### THE AMBATTUR COMPLEX

#### Madras

#### 1. Location

The Ambattur Industrial Complex covers 1,200 acres of land in the heart of a fast developing industrial belt along the Madras - Avadi road. It is about 8 miles from the centre of the city of Madras and 15 miles from the Meenambakkam Harbour. The place is linked to the metropolitan area by an efficient transportation system. Water, power, and relatively flat land are readily available.

#### 2. Infrastructure and Common Facilities

The lay - out of the industrial estate (part of the complex) has been very well planned. The standard

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26. For more detailed discussion of the Ambattur Complex and the Hindustan Machine Tools Industrial Estate see also two case studies prepared by the UNIEP participants (Hyderabad, 1969).

factory sheds are of four types. These units are so designed that some types can be expanded easily. The buildings are functional and modern in style.

The common service facilities found on this estate include a modern toolroom, a well - equipped structural workshop, a common lease - shop where special machines can be rented out to industries, post office, telephone exchange, a petrol bunk, a branch of the state Bank of India, a clinic with a full - time doctor, a canteen, cooperative stores, an industrial training centre, etc.

The industrial area (developed plots) was established mainly to serve as an attraction for medium and large industries. Essential services like power and water supply, roads sewerage and other amenities have been provided. The main conditions in the allotment of the plots are the following:

—The plot shall be used for the purpose for which it was allotted.

—The plot shall not be sub - leased without the consent of the administration.

### 3. Management

The administration of the Ambattur Industrial Estate - Area is under the authority of an Administrative Officer, assisted by an Executive Engineer and some clerks.

In the admission of industrialists to the estate, preference is given to light engineering and ancillary industries. For the first five years the occupants of the Ambattur estate are charged almost half the economic rent.

The interests of the occupants are represented to the Administrative Officer by the Manufacturers' Association, which undertakes, besides that, certain activities to help the members in many technical, administrative or financial problems.



#### 4. Observations

As the UNIEP participants pointed out the Ambattur multi - purpose industrial complex has the following features which are at present considered as nationally accepted guidelines in India:

- Trend towards functional estates.
- Limited government participation in the construction of sheds (development plots).
- Co - existence of small, medium and large industries.
- Housing accommodation for the workers.

There are, however, certain drawbacks in this modern estate: The common facilities buildings are not easily accessible to all the occupants and the workers because they are concentrated in one area; the number of houses is not sufficient to meet the workers demand; the policy of the Administration which insists on not making the sheds available to the industrialists on a hire - purchase basis, is disputable.

### HINDUSTAN MACHINE TOOLS INDUSTRIAL ESTATE

Bangalore

#### 1. Type of Estate

The Hindustan Machine Tools Industrial Estate is, unlike others, a satellite Industrial Estate of feeder industries ancillary to the large - scale Machine Tools Factory of H.M.T.

Hindustan Machine Tools manufactures over 2,000,000 component parts of various types every year. In order that the factory could concentrate on the manufacture of more complicated components, H.M.T. has been sub - contracting the manufacture of simpler components to the small - scale units in its Industrial Estate, owned and managed by entrepreneurs mainly of the worker - proprietor type.

The project, consisting of 50 ancillary small - scale units, is sited in the neighbourhood of the mother - company.

## 2. Selection of Entrepreneurs

The entrepreneurs are selected by H.M.T. on the basis of experience and technical and business competence. Almost 50% of them are technical employees of H.M.T. Every entrepreneur is required to pay 5% of the total value of the machinery, the balance covered by loan.

## 3. Facilities and Training

The H.M.T. provides the entrepreneurs with the necessary technical assistance and training on the job. Besides that, H.M.T. provides:

- Free maintenance of factory buildings.
- Assistance in advance planning of production.
- Raw material, etc.

The prices of the products are based on the cost of production plus guaranteed minimum profit of 10%

## 4. Observations

The control of the H.M.T. over the small entrepreneurs seems to be so great that their future depends almost completely on the H.M.T. perspectives and development.

# WAGLE INDUSTRIAL AREA

## Thana

### 1. General information

This is the first Industrial Area which was taken up for development by the Maharashtra Industrial Development Corporation. Wagle Industrial Area is situated at a distance of 3 Km from Thana. The total

area is of 578 acres. The total number of plots are 634. Since the industrial area offers only developed plots and no factory buildings erected in advance, a successful promotion policy was established to attract entrepreneurs. So far, out of a large number of applications, the plans for 450 factories have been approved and in 236 of them production has already started. The number of factories under construction is 72. The sizes of the plots vary from 600 sq. yards to 50,000 sq. yards.

The area under plots, roads, etc. is shown below :

— Area under plots	445.40 acres
— Area under roads, etc	88.30 acres
— Open space	44.30 acres

The total length of roads in this area is about 14 miles.

## 2. Common Facilities

One of the most important facilities offered in the area is the Technical Training Institute for training sons of the farmers, whose lands were acquired for this industrial area. Other facilities are fire fighting station, telephone exchange, etc.

## 3. Observations

The type of the Wagle Industrial Area is single - trade because only engineering industries are allowed in it. The reason is that there are difficulties regarding the disposal of effluents.

The common facilities and amenities need expansion to meet the increasing demand of various services by the workers and the industrialists.

## GULTEKADI INDUSTRIAL ESTATE

Poona

### 1. Sponsorship

The Gultekadi Industrial Estate is organized on a

cooperative pattern. In this case the land has been given to the cooperative Society by the Poona Municipal Corporation on long lease on a nominal rent, while the entire development cost has been undertaken by the Society.

The financing of this type of industrial estates is under the following conditions:

- a. Twenty per cent (20%) of the cost of the estate (except the cost of land) is raised by the members as their share capital.
- b. Twenty per cent (20%) is the matching share capital provided to the Society by the Government.
- c. Sixty per cent (60%) is the loan raised from a financing agency.

The Government matching contribution is interest free and is recovered from the Society in 13 years. The loan is to be recovered in 15 years (rate of interest 6%).

The total number of sheds in this estate (7 acres) is 42, constructed in phases.

## 2. Observations

The construction and operation cost in the Cooperative estates (like the one in Poona) in comparison with the Government sponsored industrial estates is lower. The buildings, constructed according to specific requirements of the production process, are functional, but not fancy and the common facilities and services offered are limited only to the necessary ones.

## RURAL INDUSTRIAL ESTATE

## Vikarabad

## 1. Location

This rural industrial estate is located in Shivared-dypet Village, near Vikarabad (almost 2 miles) and about 40 miles from the city of Hyderabad. The developed land of the estate covers 30 acres well connected with Vikarabad town by rail and road.

The factory buildings in the estate are twenty four of the following types:

Type	No. of sheds	plinth area in sq. ft	workshed area in sq. ft
«B»	4	4676	3200
«C»	4	3298	2000
«D»	8	2680	1667
«E»	8	2205	1382

The estate has been provided with water supply, from a well located within it, power supply, drainage system, and internal roads. Besides the canteen, there is also a «guest house» and an administration building.

## 2. Observations

The response from the entrepreneurs to set up industries in this estate is not satisfactory. Only a few small units are functioning, the rest of the buildings remaining vacant. The main reason for the failure of this rural estate is bad location. The existing narrow economic potentialities of the area were not studied carefully in advance and the small village of Shivared-dypet is located far from Hyderabad, the capital of the State of Andhra Pradesh.

**BAPTI ROAD ESTATE**  
**Bombay**

**1. Location**

The BapTI Road Industrial Estate is located in Central Bombay. The Municipal Corporation established this estate in order to clear the slum area and remove the congestion in Kunbharwada area.

The entire estate is in one multi-storeyed building consisting of ground and three upper floors. The total number of sheds are 124 and the functioning small units are 87 of the following types:

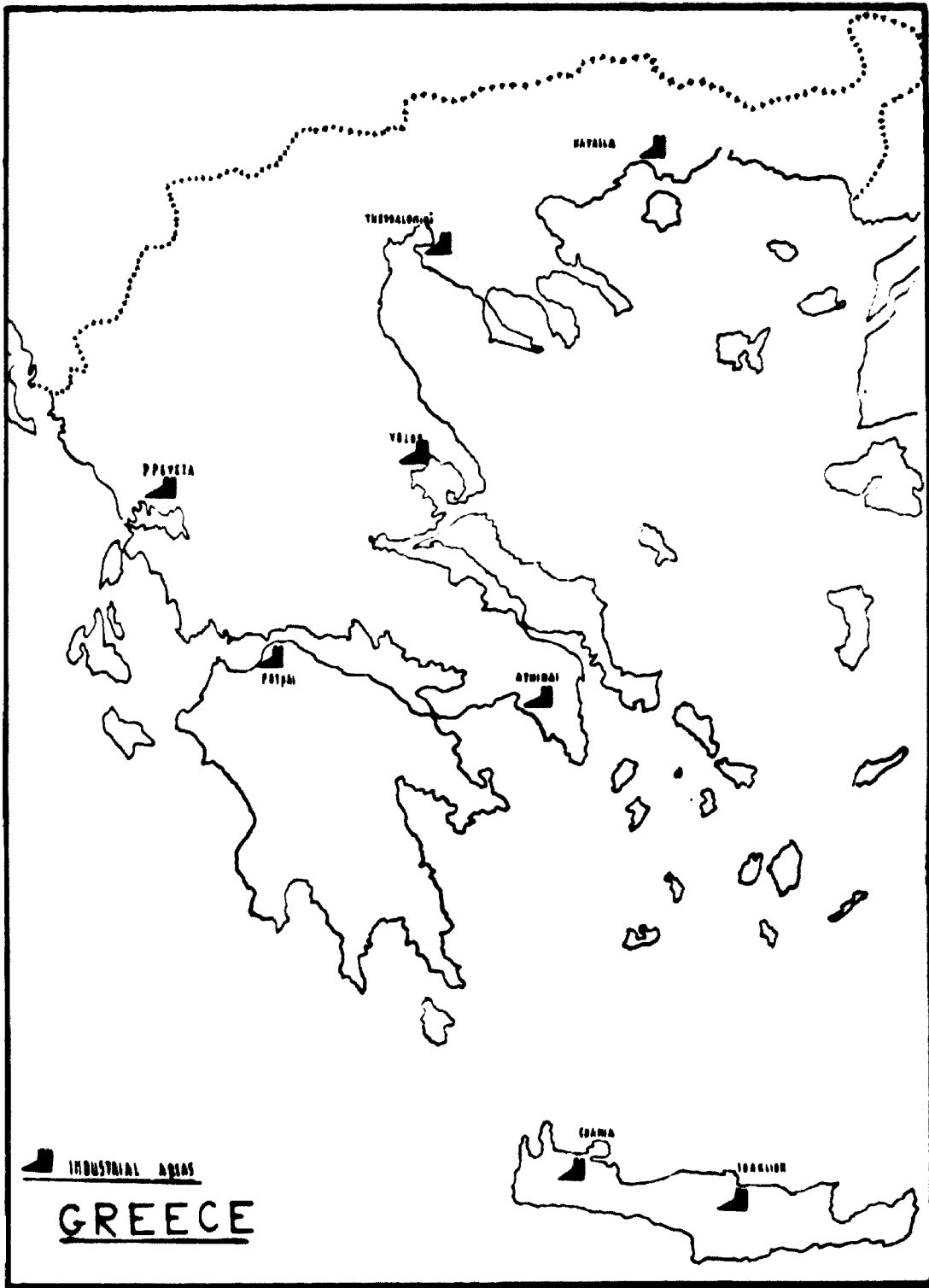
— General Engineering	67
— Printing	7
— Electrical	3
— Textiles	2
— Plastics	3
— Chemical	1
— Miscellaneous	4

**2. Observations**

Common facilities are not provided in this estate, except for a private canteen. The health conditions are terribly bad and the transportation system is not working efficiently, mainly because of lack of space.

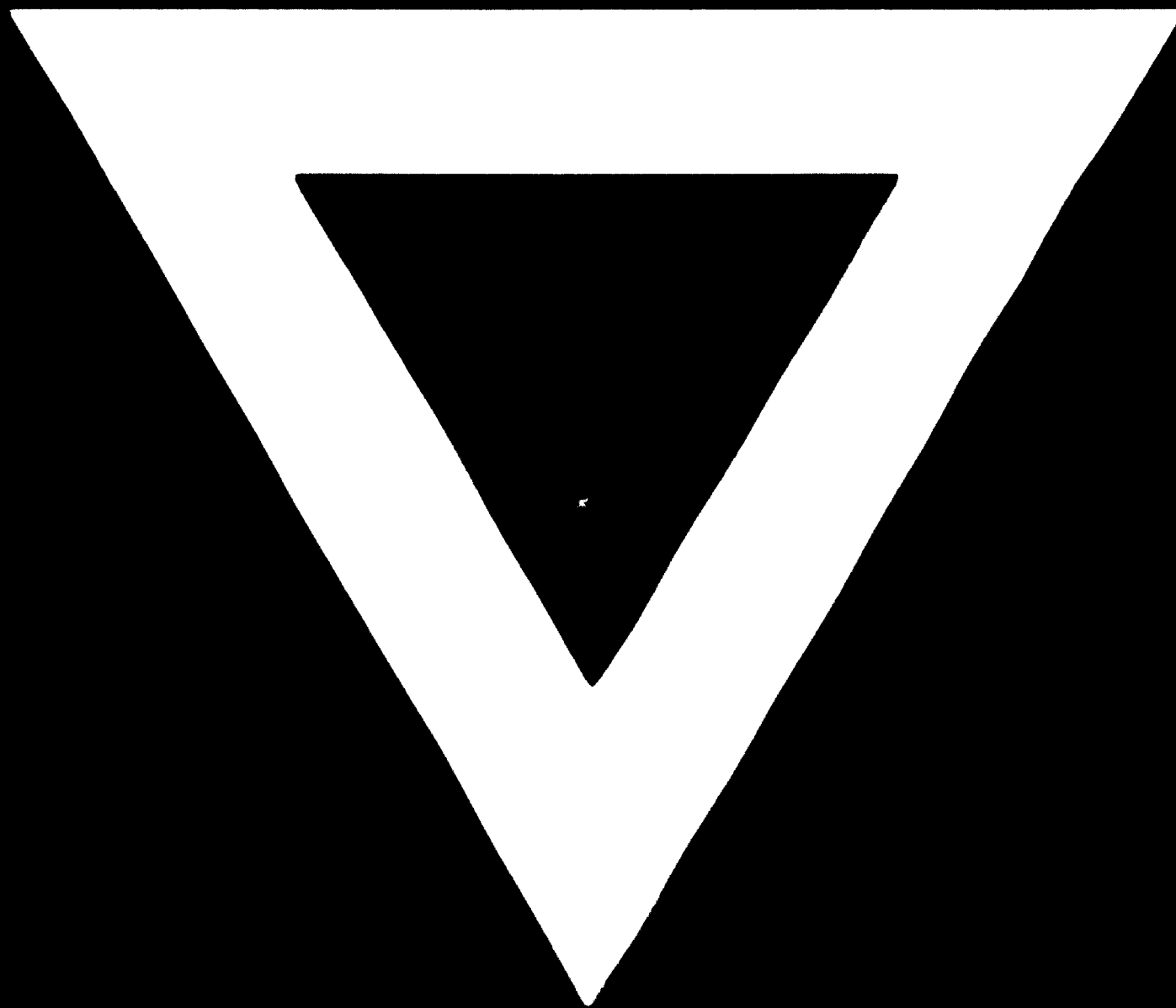
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