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UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION
Vienna International Centre, P.O. Box 300, 1400 Vienna, Austria
Tel: (+43-1) 26026-0 · www.unido.org · unido@unido.org

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Alan Cohen
UNIDO Expert

(ISTAT [illegible])

(PART TWO) UNIDO/TCD.[illegible] - The Socio Economic Context (Synopsis)
- The IPZITA Project

(PART THREE) UNIDO/TCD.[illegible]/Add.1 - The Socio Economic Context (Detailed)

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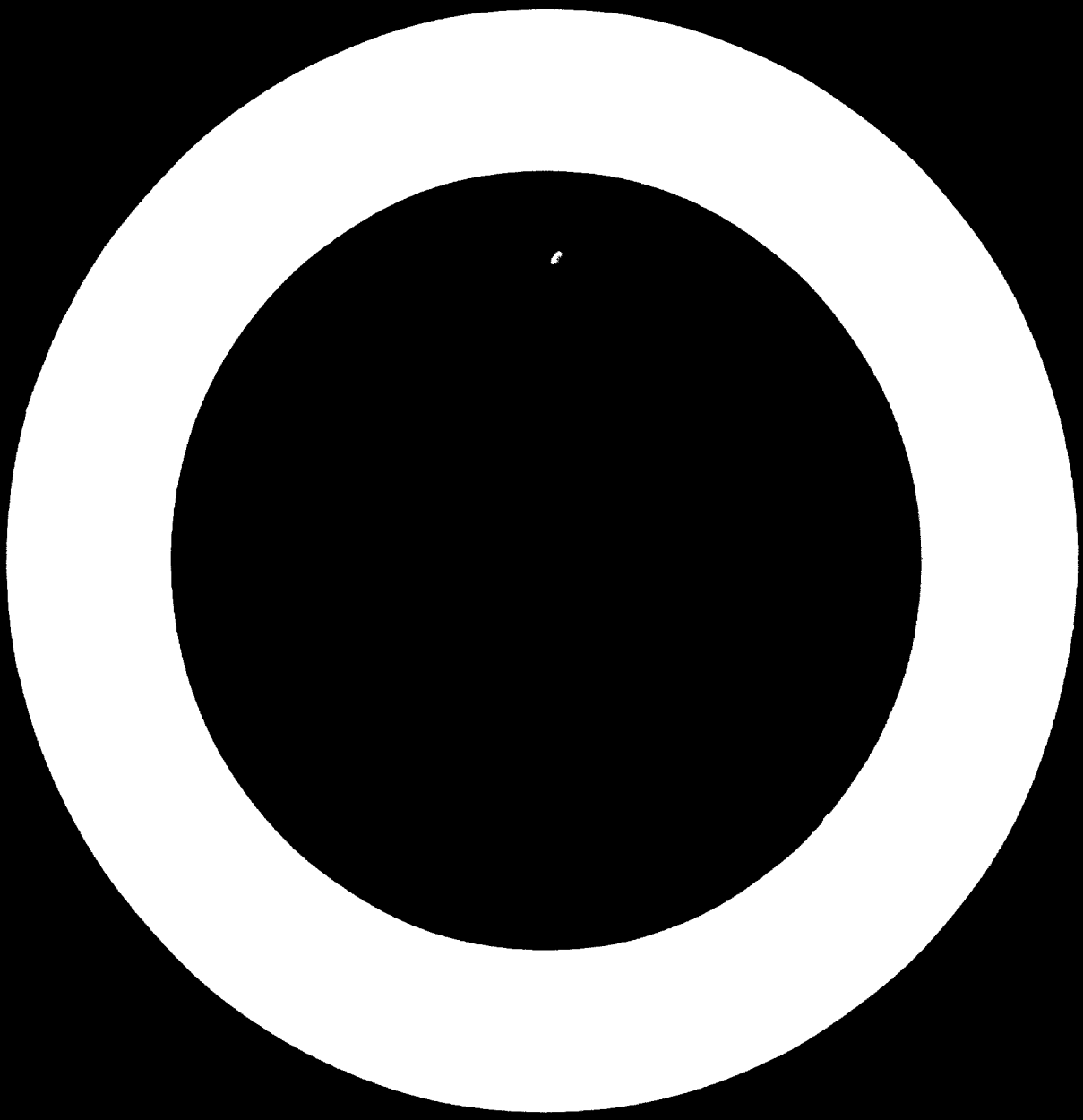

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T E R M S O F R E F E R E N C E

At the request of the Government of the Republic of Panama, the United Nations Development Programme agreed to provide assistance in conducting a feasibility study for establishing a Free Zone Industrial Estate in the international Tocumen Airport for Export Oriented Production, dependent mainly on Air-freight.

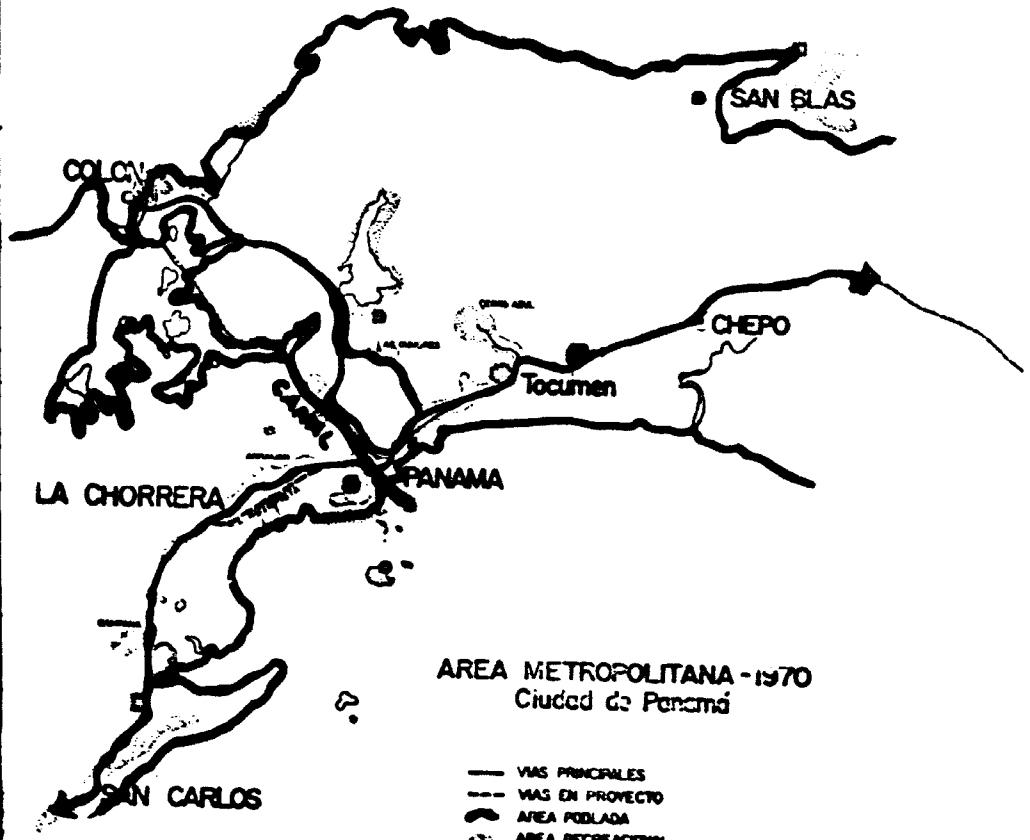
According to the Job Description: PAN/[illegible] (SIL) the team is one-member team - Mr [illegible] (UNIDO) Industrial Free Zone Expert - who undertook duties at Panama on the 17 July 1972 for a period of three months (after extension).

The Job-Description reads:

DUTIES:

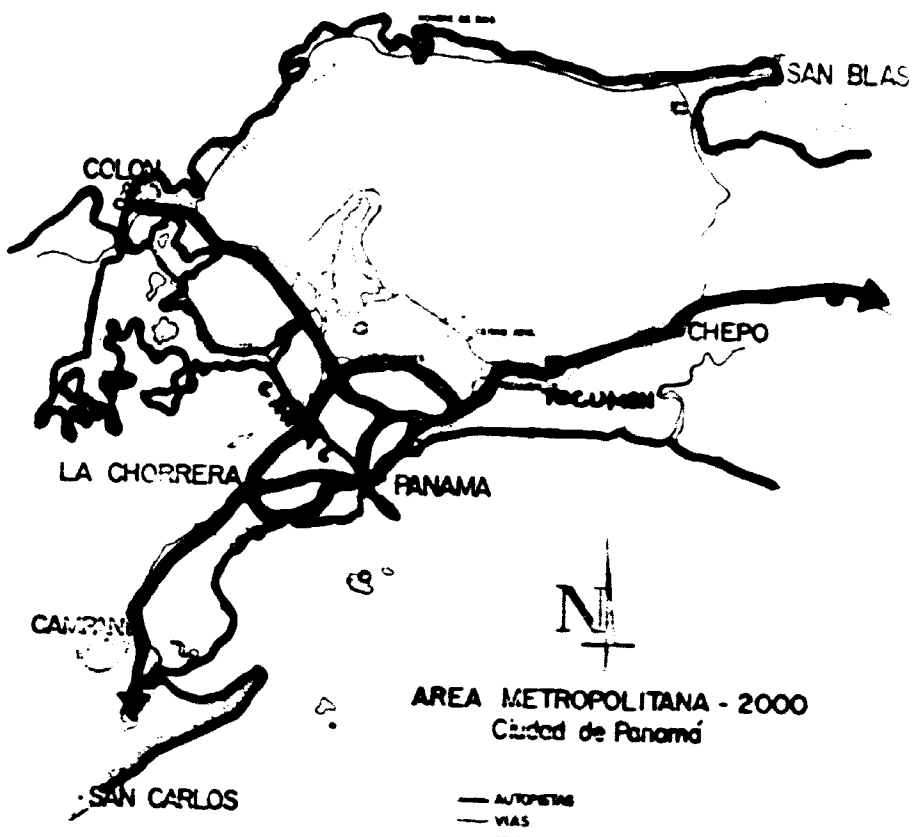
The expert is expected to:

1. undertake a study of feasibility of establishing an industrial free zone taking into account the present economic and industrial facilities available in the vicinity;
2. make recommendations on the types of industries which would be considered suitable to be established in the free airport zone;
3. advise on fiscal and other incentive measures to be provided in order to attract new investments within the free airport zone;
4. prepare suggestions as to the legislative and administrative measures required for the management and operation of the free airport zone;
5. make any other useful recommendations in connection with the establishment of the free airport zone;
6. investigate and assess the situation of the Colon Free Trade Zone and other free zones in Panama, provide necessary expertise and suggest improvements of operation or expansion of the free zones and recommend further fields of technical assistance to be provided by UNIDO. (See copy of letter attached.)
7. prepare a physical plan.



AREA METROPOLITANA - 1970
Ciudad de Panamá

- VIAS PRINCIPALES
- VIAS EN PROYECTO
- AREA POBLADA
- AREA RECREACIONAL
- PUERTOS
- AEROPUERTOS Y PISTAS



AREA METROPOLITANA - 2000
Ciudad de Panamá

- AUTOPISTAS
- VIAS
- PROYECTO AUTOPISTAS
- AREA POBLADA
- AREA RECREATIVA
- AEROPUERTOS Y PISTAS
- PUERTOS

CHAPTER ONE - INTRODUCTION

1. PROBLEMS IN PANAMA'S ECONOMIC SCENE

1.1 An agricultural economy

Panama's economy is still, by and large, an agricultural economy. Although Commerce, Banking and Services have experienced, over the past decade, an enhanced growth - each sector having doubled its product between 1960 & 1970 - the agricultural sector still commands 38% of total jobs and 21% of the Gross Domestic Product which represent the highest sectorial shares in the country's economy.

The dominance of this sector, whose growth potential is the lowest in terms of jobs and productivity, and which accentuates the major bulk of latent redundancy - with 11,000 unemployed - leads, obviously, adverse effects on the economy of the country.

1.2 Low rate of industrialization

The low participation of Industrial Manufacture in Panama's economic life is evidenced by the low shares of the sector in both total jobs and the Gross Domestic Product; the sector's jobs have not exceeded an 11% share and its product has not surpassed 18%.

The low rate of 33 jobs per 1000 inhabitants provides an additional indicator, to the stated above.
Although the labour force seeking jobs in the sector does now account for more than 11% of the total labour force, the jobs supplied in the sector have been unable to cope even with this modest demand, giving, thus, rise to a redundancy of 3,400 unemployed which form 6.6% of the sector's labour force.

1.3 Acceleration and deceleration in the growth of the Industrial Manufacture sector

This situation has been established inspite of the dynamic growth of the sector in the past decade: between 1960 and 1970 the sector has succeeded, under the Government's sustained support, to double its employment capacity and to treble its product. Nevertheless, the difficulties encountered by the sector in recent years are evidenced by the deceleration observed in the second quinquennium whereby yearly growth rates of the product dropped from 12.6% for 1960-65 to 9.6% for 1965-70.

The reasons for the above are incorporated in the internal structure of the sector and the Government's policies in respect of its various groups.

1.4 Specialization in the production of import-substitute commodities

The Industrial Manufacture sector has been geared to produce import-substitute commodities for the domestic consumer market such as: food, drinks, tobacco, clothing, footwear, furniture and leather products. Consequently, Light Industries account today for half the sector's product.
The Metallic Industries, despite their similar dynamism for the decade (being linked to the construction industries) have achieved no more than a 12% share in the sector's product.
Other industries such as Chemical, Non-Metallic Mineral, Rubber Paper and Oil Products have grown at a moderate pace forming 25% of the sector's product. The Printing Industry remained almost static with a share of 12%.

The dominance of the light industries in the sector, which emerges from the above, explains why fluctuations within this group have, presumably, reflected on the sector as a whole.

1.5 Limited success of the import-substitute manufacturers

The market penetration of the import-substitute manufacturers has proved to be rather limited. During a period of 8 years - 1961-68 - the dependence of Panama's domestic consumer market on foreign supply has evidenced a very small decrease.

Whilst imports entered in 1961 for 67.5% of the domestic consumption they remained in 1968 providing for no less than 65% of the consumer markets needs.

It would appear that import-substitute commodities have incurred problems of market-penetration due to their relatively medium quality as compared with foreign goods, on the one hand, and their comparatively high prices, on the other.

Large-scale enterprises involving economics of scale, which could possibly reduce prices and improve quality, have been considered inapplicable to the Panamenian scene, in view of the small size of the market which is further restricted to the "medium-high" income groups and, the lack of sufficient skilled manpower to engage in sophisticated methods of production.

1.6 An inflatory situation

The relatively high prices of Panamenian goods are due to the prevailing inflatory situation caused by the surplus of money generated on the economy from the transactions of the Canal

1.6 (contd.)

Zone, a surplus which is further enlarged by the higher income of its workers (due to the application of U.S. minimum salary there). This [illegible] increased spending power [illegible] elevates the price of goods and services and in turn, the cost of labour in a cyclical process [illegible] out of the Government's control, in the absence of a [illegible] Bank, which could [illegible] taking [illegible] monetary measures. As [illegible] factors are highly [illegible] [illegible], [illegible] of labour becomes a major determinant [illegible] of the [illegible]. The [illegible] productivity [illegible] exacerbates the cost of labour [illegible].

1.7 Market size, price-structure, level of productivity - handicaps to industrial development

In [illegible]; the size of [illegible] market, the price structure and productivity have largely reduced both the [illegible] and the range of [illegible] substitution [illegible] the last [illegible] of [illegible] the [illegible] mentioned [illegible].

1.8 High prices, mediocre quality - handicaps to development of export-oriented manufactures

The above factors which have [illegible] Panama's [illegible] difficulties of penetration in the [illegible] market [illegible] them, unless [illegible], [illegible] absorption [illegible] in respect of foreign markets.

They have virtually built up, so far, the basic handicap in the establishment of export-oriented manufactures as well as in the development of non-consumer manufactures which because of the local limited domestic market must be based on a wider catchment. The Government's decision so far, not to join the Central American Common Market makes clear the dependence of such manufactures on foreign markets.

Yet, for the reasons argued above the principal prospects for increment in the product of the Industrial Manufacture sector, lie in the development of new lines of production in the realm of export-oriented manufactures.

1.9 Establishment of export-oriented manufacture - a start from scratch

The establishment of export-oriented manufacture, notwithstanding their immense prospective contribution to Panama's economy, would be, however very demanding and strongly dependent on the Government's assistance and support, in the form of incentives and loans to industrialists and a serious intervention in restructuring the cost and productivity of labour, for instance the proportion of skilled manpower, promoting modern methods of production, creating thereby an appropriate climate for export-oriented manufacturing.
The major efforts required by such a programme can be appreciated in their right dimension when observing that they entail in fact a start from scratch. Panama's exports today is insignificant. It has attained B/70 millions only in 1970, which was 4.3 times smaller than imports. Moreover it consists of almost exclusively of agriculture (73%) and marine products (22%). Manufactured products account for less than 4%.

1.10 Slow down in the growth of Domestic Investment

The recent sharp slow-down in the growth of the general domestic investment from a rate of 21.1% in 1970 to 6.5% in 1971 presents a most disquieting phenomenon which is likely to jeopardise an ambitious programme as the above.

1.11 Indecision in the choice of policy options

Moreover, the Government's hesitation in the choice of policy options - whether to promote import-substitute or export-oriented(1) manufactures - presents an additional specific handicap for investments in the Industrial manufacture sector.

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(1) Decree No.413 of December 1970 for the promotion of export-oriented industries and Decree No.172 of December 1971 for the promotion of import-substitute industries subrogating the former.
Decree 172 is also inconsistent with:
(a) the published development strategy of the Government: 'Estrategia para el Desarollo Nacional 1970-80.' Direccion General de Planificacion & Administracion de la Presidencia de la Republica, Abril 1970.

(b) The launching of the foregoing feasibility study for the establishment of an Industrial Free Zone at the Tocumen Airport.

(c) The very recent (1973) approval of an Industrial Free Zone approximately midway between Panama City and Tocumen Airport.

1.12 A host of other major problems

A host of other major problems faced by the Panamanian economy today have direct or indirect rapport to industrial development and might be partly or thoroughly resolved by stimulating the industrial sector.

1.13 Unemployment and subemployment

Panama's economy has today 37,000 unemployed. This represents the incapability of 2.4% of the population or 7.1% of the labour force to support itself. The social dimension of the problem is revealed by the percentage of families having no working member, which attains 9.3%.
Unemployment is further exacerbated by sub-employment [1] which affects an additional 12.8% of the labour force. Unemployment can, as a result, be estimated to attain 13.5% of the labour force. $(7.1\% + \frac{12.8\%}{2} = 13.5\%)$.

The major redundancies belong to the agricultural sector, having 11,000 unemployed and the services having 9,600 unemployed. These added to the 3,400 unemployed, of the industrial sector, would form a reserve of 24,000 unemployed, likely to be occupied in the industrial sector.

1.14 Deficit in the Balance of Payments

One of Panama's most worrying problems is the entrenched and growing deficit in her Balance of Payments, which attains today (1970) B/70 millions, resulting from the country's commercial transactions in goods and services, with the rest of the world. This derives basically, from her low exporting capacity on the one hand, and the comparatively large volume of imports, which is 4.3 times larger, on the other (B/304 millions as compared with B/70 millions). The deficient situation in the Balance of Payments could have been much worse, if not for the surplus of B/145 millions generated by the Canal Zone activities and the B/45 millions net gains to Panama from the Colon Free Zone transactions. This, does not deter however from recognizing the pressing need to reduce the deficient situation by strengthening Panama's exporting power.

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(1) Sub-employed = employed only 50% of working days

1.15 Polarization and regional disparity

The interrelated booming centres of activity - the Canal Zone, the Colon Free Zone, Tocumen Airport, Panama City, the capital, principal city and banking centre of the country - being all concentrated in the Metropolitan Area - have given rise to polarization and regional disparity: On the one hand the Metropolitan Area with higher levels of income, greater job opportunities, high quality services concentrating on 10% of the country's land, 46% of its population and 53% of its jobs, whereas, on the other hand, the vast areas of the Interior lagging behind.
This has also encouraged a growing depopulation of the Interior and an accumulating drift of the order of 84,000 persons for the period 1960-70 heading to Panama City, on the lookout for better jobs and the environment of the "Big City". This, however, has resulted in a growing concentration of unemployed in the Metropolitan Area, adding up to 22,000 persons forming 7% of the country's total unemployment for 1970.

It emerges that the Metropolitan Area has failed to supply jobs to such an order of demand, inspite of having more jobs per capita than the rest of the country - 337/1000 as opposed to 271/1000 respectively.

In other words, unemployment in the Metropolitan area presents a most serious problem as it possesses 36 unemployed/1000 population whereas other areas have 11 unemployed/1000 only.

1.16 A primate city-size distribution and spatial imbalance

Finally, the small size of the country, on the one hand, and strength of Panama City on the other have handicapped the 'take off' of other cities to attain a certain size which might allow them to become growth poles to their own hinterlands and thus assist in re-establishing regional balance. Hence, a primate city-size distribution prevails.

1.17 Summing-up

The major problems identified above can be summarized as follows:

1. Underemployment, unemployment and a rapidly low level of productivity in most sectors of the economy;

2. inflationary tendencies;

3. instability and deterioration in the growth of the industrial sector;

4. indecision and hesitation of the Government in the choice of industrialization policy options - import substitute versus export oriented manufactures;

5. low rates of industrialization resulting in unemployment in the Industrial Sector;

6. low exporting capacity and overdependence of the domestic consumer market on imported goods, resulting in a huge and ever-increasing discrepancy between the Imports and Exports;

7. entrenched and increasing deficit in the Balance of Payments;

8. Polarization and regional disparity.

This wide range of problems, although great, is not irresolvable provided a rational use is made of the considerable opportunities incorporated in the Panamanian scene.

2. OPPORTUNITIES AND PROJECTS FOR FUTURE DEVELOPMENT

2.1 A unique geographical position

The unique geographical position of Panama should be regarded as its major asset and the most important source of the country's opportunities.

The significance of this factor and its dimension has already been evidenced in the success of the Canal Zone, the Colon Free Zone and the Tocumen - Airport which have enhanced the locational factor to become the major determinant of their well-known dynamism and prosperity.

The multiplyer effects that these three poles of activity have generated on the Panamenian economy are actually incorporated in the achievement of the country to retain in the face of substantial difficulties, a forward position among Latin American countries for the growth of the Gross Domestic Product as well as to be one of the less urbanized countries and to possess a well advanced banking and services sectors.

2.2 The Canal Zone, the Colon Free Zone and the Tocumen Airport - Opportunity-generators

In respect of the coming 15-20 years these interrelated centres are not only expected to multiply the volume of their activities several folds but are believed to become autonomous "opportunity-generators" in their own rights.
The Panama Canal is anticipated to double the value of its product to attain [illegible] by 1970.
The Colon Free Zone is anticipated to increase its product 2.5 times and attain [illegible] by 1980.
The Tocumen Airport is expected to multiply by 1990 6 times the number of its passengers to attain 6.3 millions, and 3.4 the volume of its cargo, to attain 330 million kilos; the number of aircraft movements will increase by 2.6 times only and attain 82,000 as 80% of passengers are supposed to travel by that time in wide-bodied jets.

Consequent to the above forecasts they are regarded as Panama's main hope for the future. This explains why most of Panama's large-scale project both for the short and the long term are all linked, either directly or indirectly, to these three centres of activity.

In recent years, [illegible] has [illegible]
unprecedented [illegible] of [illegible]
of activity [illegible] with the [illegible]
the B[illegible] of [illegible]
Canal Zo[illegible], [illegible]
Tocumen A[illegible]
partly [illegible]
short-term, [illegible]
for an[illegible]

4. The Government's short-term project

The short-term [illegible], which [illegible]
considerable amo[illegible] of [illegible]
BID(1) activity [illegible],
physical development of [illegible]
portion of [illegible]
access [illegible] and [illegible].

These projects [illegible]
modern infrastructure [illegible]
projects, being [illegible] of [illegible]
which are designed to [illegible]
potential of the [illegible],
Zone and the [illegible] Airport.

In addition, the above projects [illegible]
become, on completion, [illegible]
opportunities.

---

(1) BID - Banco Interamericano del Desarrollo

(2) It appears, however, that the implementation of [illegible]
with the Canal Zone confines would depend on prior negotia[illegible]
with the U.S.A. Authorities there with view to [illegible]
Panama's interests.

2.3 (contd.) The short-term projects are the following:

1. Expansion of the Tocumen Airport to achieve international standards (now, under implementation);
2. new storm-water drainage system for Panama City;
3. hydro-electric plant in Bayano (now under implementation);
4. thermo-electric plant at Las Minas;
5. expansion of the Inter-American Highway (Darien Section) (on the threshold of implementation);
6. expansion of the Colon Free Zone to enlarge its activities as a trade free zone; (feasibility-study carried out by Livesey, Henderson & Partners approved);
7. Roads, highways, housing, etc.

In addition to the broad contribution of the above projects to the country's development, both in the near and more distant future, their salient importance for the present and immediate future, seems to lie in their contribution to the country's job market and Gross Domestic Product. Their anticipated capability of providing direct employment of the order of 9,000 jobs a year for the period 1972-75 and securing the growth of the GDP by 6%-7% is of singular importance at a time of recess and ambiguity, in industrial development and of growing unemployment; also it throws light on the variety of options available in the Panamanian scene.

2.4 Private Sector's projects

Additional projects for the short-term launched by the private sector enlarge the prospects for the short-term and prove the confidence of individuals in the country's opportunities.

(1) Housing for low medium and high income groups;

(2) Marina City (opposite Old Panama City);

(3) expansion of the Bahia Las Minas refinery;

(4) new methods of agricultural production;

(5) increase in production of sugarcane for exports;

(6) sustained increase in manufacture of building materials;

(7) expansion of the Banking system.

2.5 Long-term feasibility studies

The Long-term feasibility studies, now at hand, are the following:

(1) An oil pipe

(2) A fishing port aimed at enhancing the fishing trade;

(3) An international centre for containers;

(4) A centre for transhipment, warehousing and financing of goods;

(5) A refrigerator centre;

(6) A processing centre for raw material crossing the Canal;

(7) Dockyard for maintenance, repair and servicing of ships crossing the Canal;

(8) An international centre of finance;

(9) Tourist projects;

(10) An industrial Free Zone at the Tocumen Airport - which is the subject of this report.

2.6 Tremendous potential

These possible large-scale projects [illegible] on the tremendous potential of the country, and specially on that of the Metropolitan Area where the major activities are concentrated, and where most varied opportunities lie for the future.
A rational utilization of this potential might secure a substantial expansion of the economy and the growth of income in a way to ease the development and integration of the various areas of the country.
However, it is being recognized that such huge projects are likely to reach materialization provided the Government finds rational financing methods, as its capacity of indebtment will constitute at this juncture, a critical factor. The most straightforward and reasonable strategy will be the one leading to the pay-off of indebtments by means of export of services and goods - capable of producing the necessary foreign currency to service external debts.

2.6 (contd.) In the absence of such a strategy the state of indebtment is likely to worsen, due to both investments in development projects to the high import coefficient. Consequently, the dynamic impulse that will be generated by investments and public expenditure are bound to leak out of the economy leading eventually to severe pressures on fiscal income and credit dispenibility.

2.7 Development of export-oriented industries - an imperative necessity

The above tour along the possible "futures" of the Panamean scene, besides having highlighted opportunities lying ahead, has also re-established the imperative necessity in the development of export-oriented industries - as an essential and irreplaceable means to prevent eventual economic crisis and keep going the development process.

3. ECONOMIC POLICY OPTIONS

3.1 General

Possible options for the future economic development of Panama have been considered by various bodies - international and local as follows:

(a) Options in respect of employment and the Gross Domestic Product in the frame of the global study "Programa Regional del Empleo para America Latina y el Caribe" - PREALC - initiated by ILO with the assistance of the 'Direccion general de Planificacion of Administracion de la presidencia - Republica de Panama carried out in 1972.

(b) Options for the Canal Zone: in the frame of the above (PREALC).

(c) Options for the Colon Free Zone: in the feasibility study "Estudio para el Desarrollo de la Zona Libre de Colon" undertaken by Livesey, Henderson & Partners - London.

(d) Option for the Tocumen Airport: in the feasibility study "Plano Maestro Aeropuerto Internacional de Tocumen Republica de Panama" undertaken by: PARSONS INCORPORATION Los Angeles, New York.

(e) Options for fiscal policy: by the study "Vision de la Economia Panamena: 1971-72" undertaken by INDESA (Investigacion y Desarollo S.A.) for the CONEP (Consejo National de la Empressa Privada).

3.2 Employment (1980)

Option 1 (high hypothesis)

A total of	650,000 jobs
in the economy as a whole,	
i.e., a total of	216,000 new jobs
out of which:	
in the non-agricultural sector	183,000 new jobs
including among others	
in the industrial manufacture	30,000 " "
in the Commerce & Banking	48,000 " "
in the Services	66,000 " "

This option implies a vigorous effort to retain growth rates at 3.6%
in line with present trends, to stimulate the motivating sectors of the economy: industry, commerce and banking and services with particular emphasis on industrialization and reduce unemployment from 33,000
at present to 7,000
only in 1980.

Option 2 (low hypothesis)

A total of	600,000 jobs
in the economy as a whole	
i.e., a total of	157,000 new jobs
out of which:	
in the non-agricultural sector	132,000 " "
including among others	
in the industrial manufacture	20,000 " "
in the Commerce & Banking	35,000 " "
in the Services	44,000 " "

This option represents a comparatively less ambitious scheme which takes account of constraints and concedes a deceleration in growth rates to 2.5%
and consequently, puts up with the creation of less new jobs and growth of unemployment
from 33,000
to 56,000

It means a retardation in the expansion of the economy and basically in the industrial manufacture sector.

3.3 The Gross Domestic Product (1980)

Option 1 (high hypothesis)

In the economy as a whole, a total of	B/1,640.0 M
in the non-agricultural sector a total of	B/1,383.0 M
resulting in:	
GDP per employee	B/2,513.0
GDP per capita	B/ 845.0

This option implies vigorous efforts on the part of the Government to retain growth rates at 8.0%
for the economy as a whole and at 8.7%
for the non-agricultural sector, in line with present trends.

Furthermore, provide for enchanced growth (higher than the above averages) of selected sectors leading to consolidation of the financing sector (Banking) 12.2%
the advent of industrial manufacture 10.3%
in infrastructure:
Engineering Services 11.8%
and Transportation Services 10.8%

Option 2 (low hypothesis)

In the economy as a whole, a total of	B/1,422.0 M.
in the non-agricultural sector a total of	B/1,186.0 M.
resulting in:	
GDP per employee	B/2,370.0
GDP per capita	B/ 732.0

This option concedes a deceleration in the expansion of the economy with lower growth rates of 6.5%
for the economy as a whole, and of 7.1%
for the non-agricultural sector.

Nevertheless, the same four selected sectors are to experience growth rates higher than the above average, but at lower rates in comparison to option 1 as follows:

- for financing (Banking)	9.9%
- for industrial manufacture	8.4%
- for infrastructure:	
Engineering Services and	9.0%
Transportation Services	8.8%

		Option 1 (high hypothesis)	Option 2 (low hypothesis)
.4	Industrial Manufacture Sector (1980)	A total number of jobs for the sector: 78,000 i.e., new jobs: 30,000 A GIP of B/ 373.0 M forming a share of 23% in the GDP resulting in: GIP per worker B/4,780.0 GIP per capita B/ 195.0 This option implies an ambitious industrialization programme which represents a considerable growth both in finite and in relative terms of jobs and product although somewhat lower rates are reckoned for jobs: 5.0% and for product: 10.3%	A total number of jobs for the sector: 50,000 i.e., new jobs: 20,000 A GIP of B/ 313.0 M forming a share of 21% in the GDP resulting in: GIP per worker B/ 6,300.0 GIP per capita B/ 164.0 This option represents a modest industrialization programme in line with a slower expansion of the economy as a whole. Implying considerable lower growth rates than those of the past decade: i.e., for jobs: 3.5% and for product: 8.1%
.5	Government's external debts	Option 1 (high hypothesis) Reduction of domestic turnover or use of gold reserves for offsetting external debts.	Option 2 (low hypothesis) Augment debitory situation utilizing for new deposits in local banks and getting official loans bearing in mind that such policy is inseparable from some very tough courses of action, such as: (a) expansion of exports able of absorbing incremental commitments. (b) Complementary income from foreign loans and deposits sufficient to offset foreign debts. (c) Cautious definition of the top possible level of commitments. Option 2 is recommended.
.6	The Canal Zone	Option 1 (high hypothesis) (a) Adaptation of the Panama Canal and the part of Criatobal to containerization. (b) A product of B/ 152.0 M forming a share of 9.2% in GDP (high hypothesis) from which derives a product per employee of B/6,100	Option 2 (low hypothesis) (a) Establishment of a container trains as an interim and more economical solution. (b) A product of B/ 152.0 M forming a share of 9.2% in GDP (high hypothesis) from which derives a product per employee of B/6,500

3.7 **The Colon Free Zone**

Option 1 (high hypothesis)		
(a) Expansion in the Old France field:		
(b) A total (thrice the present) of jobs:		10,500
(c) A product of	B/...	75 M.
forming 4.5% in the G.D.P.		
from which derives:		
a product per employee of	B/...	7,142
(d) An export value of (thrice the present)	B/...	811 M.
(e) A surplus of to the Balance of Payment.	B/...	120 M.

Option 2 (low hypothesis)		
(a) Expansion on reclaimed land in the Folk River:		
(b) A total (thrice the present) of jobs:		10,500
(c) A product of	B/...	65 M.
forming 4.5% in the GDP		
from which derives:		
a product per employee of	B/...	6,190
(d) An export value of (thrice the present)	B/...	811 M.
(e) A surplus of to the Balance of Payment.	B/...	100 M.

3.8 **The Tocumen Airport (1990)**

Option 1 (high hypothesis)	
Under improved facilities and expansion of the airport to achieve international standards:	
(a) A 7 times growth in the volume of passengers to attain	6.3 millions
(b) A 14 times growth in volume of cargo to attain	380 million kilos
(c) A 2.6 times in the volume of aircraft movement to attain (1985)	82,000

Improvement and expansion of the airport is now underway.

Option 2 (low hypothesis)	
In the absence of improved facilities and expansion of the airport:	
(a) A 4 times growth in the volume of passengers to attain	3./ millions
(b) A 3.7 times growth in the volume of cargo to attain	96 million kilos

3.9 **Conclusion**

Should the Panamanian Government engage in developing the ambitious projects described in Section 2 "Opportunities and Projects for Future Development" it would mean the choice of options implied by the high hypotheses. (Except for para 3.5 above)

4. THE POSSIBILITY OF AN EXPORT-ORIENTED INDUSTRIAL FREE ZONE AT THE TOCUMEN INTERNATIONAL AIRPORT

4.1 General

The development of export-oriented manufacturing as a valid means for both resolving some of the most acute problems besetting the Panamanian economy and grasping the opportunities lying at its doorstep, can separately be singled from the above and considered along "Objectives", "Opportunities" and "Policy Options".

The difficulties inherent in the initiation of manufacturing for exports within the present low level of industrialization, are, however, substantial.

Consequently, the Government will need creative initiative, ingenuity in finding [illegible] in decision-making and [illegible] for getting this activity afloat and [illegible] to "take-off".

Whilst these "Costs" will have to be considered in the light of the "Benefits" - direct and indirect - bearing a gradual relationship to the economy as a whole, it appears essential to search for methods of organization which may assist in achieving the maximum "benefits" for the minimum of "Costs".

4.2 An Industrial Free Zone - a long established device

An Industrial Free Zone is generally considered an ideal setting for export-oriented manufactures. The host of privileges normally provided therein, enable products to achieve low prices and thereby "relative advantage" in world markets.

Nevertheless, a Free Zone as such, cannot guarantee its viability unless it capitalizes on especial features, attributes and opportunities available in the local context.

4.3 Location, Types of Manufactures, Incentives

Critical determinants for an Industrial Free Zone would be:

(a) its location and prospects of integration in the spatial/economic setting of the country;

(b) the types of manufactures it will house;

(c) the incentives system and management structure it will be provided with;

(d) the strategy of its implementation.

The Metropolitan Area as Optimal Location for an Optimal Node

The Metropolitan Area appears to be the best reception for an export-oriented Industrial Free Zone. This area, as an aggregate, represents a node of population and economic activity; it possesses the basic infrastructure - physical, economic, social - to receive and service an activity of this scale, as well as the available manpower to man it. (The major bulk of unemployment is, as mentioned above, concentrated within its confines.)

It contains:-

Panama City - the capital - including a third of the country's population, constituting its major centre for banking, commerce and high quality services; - three modes of economic activity which have been identified as buttressing to the country's economy as opportunity-generators, highly specialized in their respective functions and closely inter-related:

(a) The Canal Zone - an international node for inter-ocean cargo formation and trade;

(b) The Colon Free Zone - a major node for international trade in the Western Hemisphere;

(c) The Tocumen Airport - a major node for air-transit and air-freight in the Western Hemisphere.

This range of factors seem to combine in creating an appropriate environment for the integration of a new node specializing in a new type of activity - manufacturing for export. On the one hand, the new activity may beneficiate from the diversified availabilities of human and physical resources available in this area. On the other, it will contribute in generating an ultimate number of 7,000-8,000 new jobs right at the most critical concentration of unemployment.

Moreover, this activity can be expected with reasonable certainty to promptly engage in a cyclical dialogue with the other activities at its proximity in a "co-operation through specialization" style. Finally, this Industrial Free Zone may become, over time an opportunity-generator in its own right.

These views seem to cope with the recommendations issued for the Colon Free Zone to further specialize in the future, in warehousing and distribution. The further specialization of Colon as a Trade Free Zone along with the exclusion of industrial development (save ancillary to ware-housing) from its confines, will preclude any undesirable competition to the new Industrial zone at the Tocumen Airport. (1)

The prospects for a further intensification in the interrelationship between the activities throughout the Metropolitan Area and implied in the approaching construction of the trans-isthmian highway.

There is no doubt that higher levels of accessibility and mobility will transform the area into a consolidated market of economic activity, homes, jobs and services in which the flexibility of choice could be maximized and the possibilities for co-operation (backward/forward linkages) could gather momentum.

However, such a strategy which will, undoubtedly, further multiply the opportunities of Metropolitan Area while nailing other areas to their present scarcity, can be easily misinterpreted as an advocacy for polarization and aggravation of regional disparity.

At this juncture, it should be stressed that there is nothing this mission appreciates more than regional balance; nevertheless the issue lies with the tactics of implementation and priorities assigned to courses of action.

In this case, economic stability and growth - goals of prime National importance - are considered to be more urgent and pressing than regional balance. This mission believes that without putting up temporarily with some minus factors of such a policy, Panama will never acquire the necessary equipment to embark on complex programmes aimed at the

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(1) Livesey, Henderson & Partners
"Estudio poro el desarollo de la Zone libra de Colon"

establishment of regional balance meaning:

equitable distribution of production factors and incomes. It would appear, that only the Benefits derived from the advent of industrialization and exports, particularly in the realm of unemployment and the Balance of Payments would enable the Country to set out on a second "round" viewing to stimulate the development of the Interior.

4.5 The Tocumen Airport - an optimal location at local level

Within the context of the Metropolitan Area the Tocumen Airport seems to be the ideal location for an export-oriented Industrial Free Zone.

This location may enable direct access from the Cargo Terminal to the industrial enterprises proper and thereby reduce costs on road haulage and warehousing. In addition, considerable savings can be effected in Direct Costs of delivery by air, beside others of intangible nature, such as saving of time, flexible adaptation to changing circumstances and taking advantage of momentary conjunctures which all equal money. Last but not least are the savings in time and the convenience provided to visiting executives from foreign-based firms as well as to visiting representatives-potential clients from world markets.

Moreover, it can become, due to its strategic location and superior accessibility the seat of experts and advisers of foreign-based firms looking after their enterprises throughout Central and the Northern part of South America.

4.6 Appropriate types of Manufactures - Conditional to success

As mentioned above, an optimal location is but one of the factors determining the success of a Free Zone.

It remains for the internal structure of the Zone in terms of types of manufactures and management as well as for the incentive system provided by the Government to say the last word.

The types of Manufactures which appear to be best suited to the IFZITA are those which are in demand in markets of Developed Countries and can effect substantial savings in terms of production and transport.

These types should, therefore, be featured as labour intensive, possessing desirable balance between value and weight and as having retained noticeable shares in imports by Developed from Less Developed Countries.

4.7 Levels of productivity and skills - problems to be overcome

The "comparative-advantage" which the above qualifications can, theoretically provide, can nevertheless be offset by deficiency of skilled manpower and medium levels of productivity, typifying the present Panamanian labour market.

4.8 Strategies

At this juncture, the Government's assistance will be required to provide incentives and devise strategies some of which may be the following:

(a) Design a phased programme by which relatively simpler and demanded types of manufactures will be established at the initial phase of implementation whereas the more sophisticated at the second.

(b) Use the lapse of time for training manpower and elevating levels of productivity and knowhow, resulting in a new cadre of workers capable of engaging in more sophisticated lines of production.

4.9 Incentives

Stipulate incentives capable of attracting foreign industrialists; establish tariff remittal incentives for assigning preferences between types of manufactures in a way to maximize at all times the operation of the Zone.

4.10 Management

Conceive a management structure and a legislative framework to act as a semi-autonomous body able to devise creative methods of production and efficient daily routines all aimed at a continuous promotion of the Zone, and at preventing any inconvenience that could be caused to foreign industrialists.

4.11 Courses of action

Design a programme for auxiliary courses of actions and initiatives which such a huge endeavour will, undoubtedly, need.

4.12 Positive Prospects for success

In sum, an Industrial Free Zone at the Tocumen Airport, as a forerunner for industrialization and export, is highly desirable.

Its feasibility has sound prospects, provided the available numerous opportunities are fully exploited and the vigorous efforts required are conceded vital for braving the obstacles on the way to success.

CHAPTER TWO - CONCLUSIONS AND RECOMMENDATIONS

1. General

It is conceded that the feasibility of an export-oriented Industrial Free Zone at the Tocumen Airport would depend on the following determinants:

(a) the Types of Manufactures;

(b) the Incentives System;

(c) the Management Structure;

(d) the Government of Panama Courses of Action;

(e) the Physical Plan.

2. Types of Manufactures

2.1 Approach

In seeking to identify the types of manufactures which could suit best the IPZITA one should accept as a point of departure that they have to be:

(a) labour-intensive;

(b) featured by relatively low weight with regard to their value;

(c) capable of generating substantial demand in markets of Developed Countries.

The first premise concedes that Panama's exports can achieve comparative advantage in labour-intensive manufactures in spite of the relatively high scale of salaries, compared with that of Less Developed Countries (like Taiwan and Hong Kong for instance) since Panama's salaries are still much lower than those practised in the Developed Countries which are to import Panama's products. Furthermore, the Panamanian scene, by possessing a considerable reserve of unemployed manpower, seems to be a most appropriate recipient for labour-intensive manufactures.

The second premise suggests that best advantage can be taken from the IPZITA's location within the Tocumen Airport by concentrating on the production of commodities which would maximise transportation savings offered by air freight; the intention being to effect the largest possible reduction in the final price of the exported commodity and thereby improve Panama's competitive position in the world's markets.

The third premise implies on a general approach that, Panama's manufactures should be oriented to markets of Developed Countries since their concentrated buying power which is anticipated to further intensify overtime is considered capable of securing Panama's exports with a relatively rapid growth. Exports to other Less Developed Countries are not regarded as desirable, in view of the weak buying power of those countries and their import-substitute policies.
More specifically, this premise indicates that Panama's manufactures should concentrate on the production of commodities which, as products from Less Developed Countries, have generated so far considerable and growing demand in markets of Developed Countries.

It follows from the above that the ultimate prospects of Panama's exports in general and the IPZITA in particular, will rest with the specific types of manufactures selected from the wide range of the labour-intensive manufactures in terms of their ability to take the best advantage of opportunities incorporated in the local context to overcome its problems, to achieve a considerable market penetration in order to result in a noticeable growth.

4.2 Criteria

The criteria which have been developed for assessing the "appropriateness" of the various manufactures both to the IFZITA, and to the Panamenian economy, have been related to the following determinants:

(a) Value Added per Employee

(b) Value/weight ratio

(c) Demand in Developed Countries' markets from Less Developed Countries' products.

(d) Growth of demand in Developed Countries' markets for Less Developed Countries' products.

The parameters which have been assigned to the above determinants, by this mission, are the following:

In respect of Value Added per Employee:

(a) parameters ranging between ... . 49 to 89
to determine
Labour-Intensive Manufactures 'par excellence';

(b) parameters ranging between ... . 90 to 109
to determine
Marginal Labour-Intensive Manufactures;

(c) parameters ranging between ... . 110 to 220 and over
to determine
Capital-Intensive Manufactures

In respect of Value/Weight ratios:

(a) ratios between ....11.0 $/lbs to 7.5 $/lbs.
to determine commodities with
Low-Weight/High Value

(b) ratios between .... 7.5 $/lbs to 5.0 $/lbs.
to determine commodities with
Medium Weight/High Value

(c) ratios between ... 5.0 $/lbs to 1.5 $/lbs.
to determine commodities with
Medium Weight/Medium Value.

The parameters assigned to criteria (a), (c) and (d) have been elaborated on basis of the findings of the study:

Lary H.B: "Imports of Manufactures from Less Developed Countries" National Bureau of economic research, New York, 1968.

The parameters assigned to criteria (b) - on the findings of the study:

Groenewege A.D. & Hertmeyer R: "Air-freight key to greater profit".
Aerad Printers and Publishers, United Kingdom, 1964.

(a) percentages ranging between [illegible] to determine 'Extensive Demand'

(b) percentages ranging between 10% and [illegible] to determine a 'Medium High Demand'

(c) percentages ranging between 5% and [illegible] to determine 'Medium Demand'

(d) percentages ranging between 2% and 1% to determine 'Limited Demand'

2.3 Selected Labour Intensive Manufactures at the level of Sub-Groups (2 digits)

Main Group	Sub-Group SIC Code	Description	Selection Criteria: Value Added per Employee (in £)	Value/weight ratio (£'000/ton) Finished Products	[illegible]	[illegible]	[illegible]	etc.
1 Textile, Clothing and Accessories	f/23	Clothing and Accessories* excluding Goods of Leather and Rubber	4[illegible].4	5.4	-	[illegible]	[illegible]	[illegible]
	a/30	Rubber and Plastic Products n.e.c.	93	-	[illegible]	[illegible]	[illegible]	[illegible]
	d/27	Books and Other Printed Matter*	78.5	-	[illegible]	[illegible]	[illegible]	[illegible]
2 Other Light Manufactures excl. Food	e/39	Games, Toys, Sporting Goods & Musical Instruments	[illegible]	-	[illegible]	[illegible]	[illegible]	[illegible]
	f/39	Jewellry and Silverware*	[illegible]	-	[illegible]	[illegible]	[illegible]	[illegible]
	g/26	Misc.Manufactures and costume jewellry stationery and notions*	[illegible]	-	[illegible]	[illegible]	[illegible]	[illegible]
	h/38	Optical goods, cameras, watches & instruments	[illegible]	[illegible]	-	[illegible]	[illegible]	[illegible]
	i/34	Cutlery, tools, hardware and other metal products*	[illegible]	-	-	[illegible]	[illegible]	[illegible]
	j/36	Electrical apparatus and appliances*	[illegible]	[illegible]	-	[illegible]	[illegible]	[illegible]
	k/35	None electrical machinery and equipment*	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

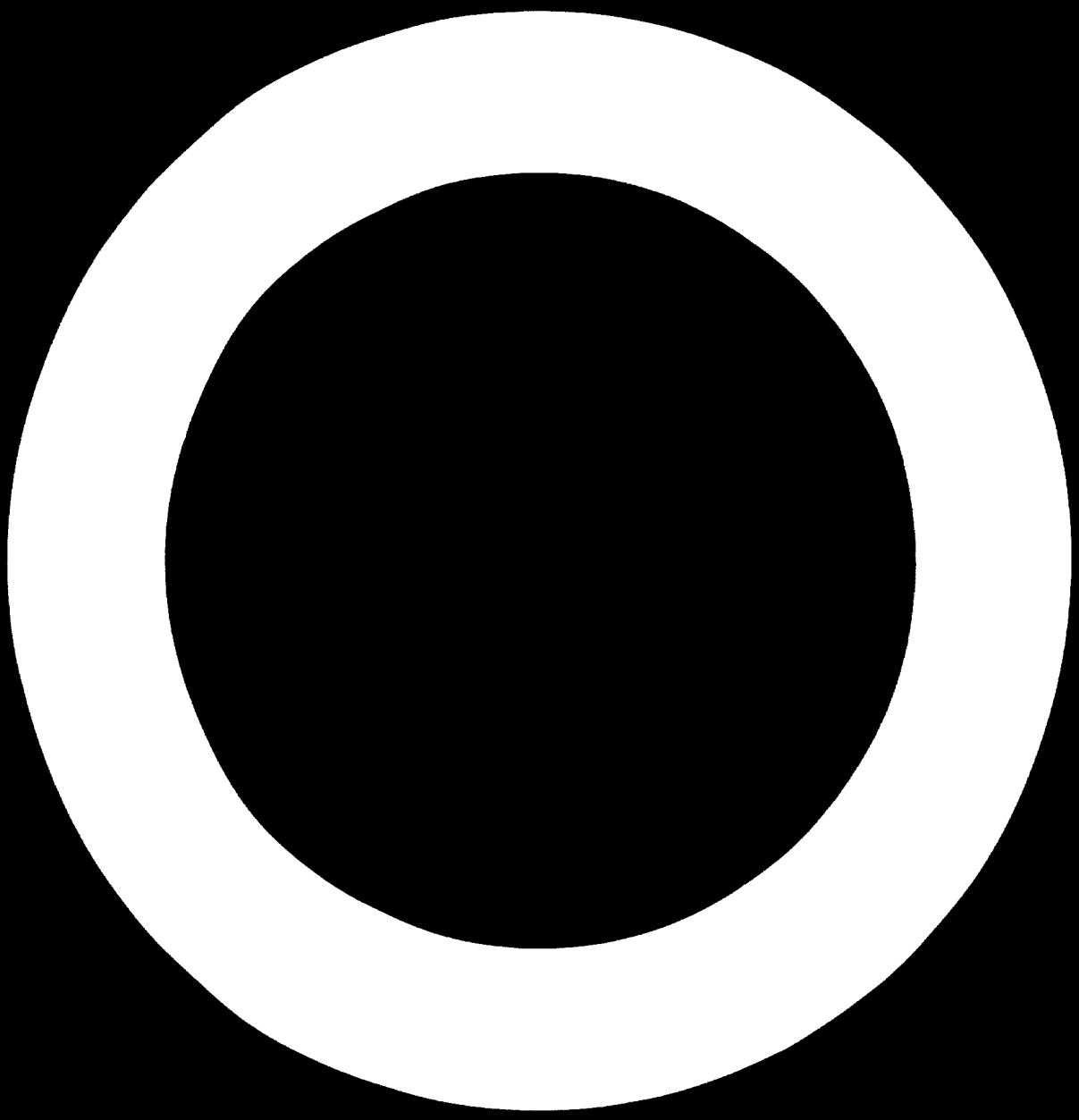
• Only parts of these Sub-Groups have been selected on the final 'round' at the 4 digit level.
Certain industries which are currently viewed [illegible] in the light of past Parliamentary [illegible] have been excluded.

*[illegible] few industries from these Sub-Groups which are [illegible] particularly promising, have been selected although [illegible] have been [illegible].

[illegible] at the level ... RANKING OF LABOUR INTENSIVE MANUFACTURES FOR THE [illegible], PHASES OF IMPLEMENTATION

Main Group	SIC Code	Sub-Group	Industry: SIC Code	Industry: Description	Product: SITC Code	Product: Description	Composite Ranking	Value [illegible] Corr. by Industry	[illegible] Employees in [illegible] SIC/Code Average	Value/Weight ratio in ($/lbs.)	USA [illegible] from LDC % of total import	[illegible] total USA ind. import (%)	[illegible] % of total import	[illegible] total DC Industry's import (%)
1 Clothing, Textile and Accessories	f/23	[illegible] & Accessories excl. Goods of [illegible] Rubber	23[illegible]	Mens & boys coats	8411	Clothing of textile fabric not knitted or crocheted	1	55.9	49.1	5.4	17.8	37.2	13.4	15.4
			[illegible]	Women & [illegible] outwear	8412	Clothing & accessories of textile fabric not knitted or croch.		47.6						
			[illegible]	Women & children underwear				49.6						
			236	Children's outwear	8414	Clothing & accessories of textile fabric knitted or crocheted		46.8						
			[illegible]84	Robes & dressing gowns				45.8						
2 Other Light-Manufactures Except Food	1/36	[illegible] Apparatus and Appliances	[illegible]	Household & automobile radio	7242	Radio broadcast receivers	[illegible]	97.8	-	11.1	2.0	13.3	0.5	4.[illegible]
	e/39	[illegible] Sporting Goods and [illegible]ments	3941	Games & toys	894[illegible]	Toys, games & sporting goods	3	69.8	66.0	5.0	2.3	16.2	1.9	11.0
			3942	Dolls				54.7						
			[illegible]	Sporting & athletic goods				73.5						
	1/36	(As above	367	Electronic components	7293	Thermionic etc., valves & tubes, photocells, transistors	[illegible]	79.5	-	11.[illegible]	0.9	14.6	0.3	0.4
	e/39	[illegible] incl. Costume Jewelry [illegible] Notions	3961	Costume jewelry & costume novelties	8972	Imitation jewelry	5	62.0	-	5.2	0.5	20.7	0.2	6.7
	4/27	[illegible] Matter	2771	Greeting-card manufacturing	892[1]	Printed matter	6	78.4	[illegible]8.0	6.0	0.4	7.[illegible]	0.2	0.6
			2751	Printing except lithographic				80.7						
			2752	Printing lithographic				73.[illegible]						
			2753	Engraving & plate printing				79.2						
	e/30	Rubber [illegible] in n.e.c.	30696	Rubber heels (only)	6299	Articles of rubber n.e.s.	7	76.2	85.9	4.5	1.4	19.6	0.4	1.9
			30697	Druggist medical sundries				[illegible].7						
			30698	Other rubber goods n.e.c.				[illegible].1						
			30797	Plastic dinnerware, etc.	893	Articles of artificial plastic materials n.e.s.		90.7						
			3[illegible]	Consumer & commercial plastic products n.e.c.				73.6						
	e/39	(As above)	3931	Musical instruments & parts	891[illegible]	Musical instruments, sound recorders, & producers & parts	[illegible]	74.3	-	7.0	0.2	3.4	0.0[illegible]	0.4
	1/36	(As above)	3661	Telephone & Telegraph apparatus			9	101.6						
			3662	Radio, TV communication equipment	7249	Telecommunication equipment n.e.s.		95.0	98.3	11.1	0.6	5.6	0.1	0.3
	f/39	Jewelry & Silverware	3914	Silverware & plateware	8971	Silversmith's ware	[illegible]	86.6	-	7.0	0.1	7.0	0.2	3.3
	h/35	Non-electrical Machinery and Equipment	35[illegible]	Computing & accounting machinery incl. cash registers.	71[illegible]	[illegible] machines, accounting machines, etc.	11	88.5	-	5.0	0.1	1.4	0.3	0.4
					7142	Statistical machines								
					71[illegible]	Office machines, n.e.s.								
	h/38	Optical Goods, Cameras, Watches and [illegible]	38[illegible]	Optical instruments & lenses	8613	Binoculars (only)		95.4	-	8.0	0.1	2.1	0.1	2.5
	1/36	(As above)	[illegible]	Lighting fixtures	[illegible]	Lighting fixtures & fittings, etc.	12	90.4	-	3.0	0.5	14.5	0.5	7.4
	1/34	Cutlery, Tools, Hardware & Other Metal Products	34211	Cutlery, scissors, shears etc.	696	Cutlery		78.7	-	2.6	0.1	3.5	0.2	3.2
	h/38	(As above)	38611	Still picture equipments	8614	Photographic cameras & flash-lights apparatus	13	100.0	-	7.5	0.1	2.6	0.1	1.6
					8616	Photographic & cinematographic apparatus & equipment n.e.s.								

Table 12 [illegible]



2.5 Strategy for implementation

a. The establishment of the IFZITA should include two main phases: at the initial phase, the IFZITA should concentrate on manufactures featured as "Labour Intensive par Excellence" (i.e., those which will be largely operated by unskilled manpower and whose production process is relatively not complicated) and having evidenced noticeable demand in markets of Developed Countries.

This method would enable to make the best possible use of the cheapest available labour which at the same time has sufficient know-how to cope with the modest requirements imposed by these simple manufactures.

Such a strategy is likely to enable for the products to achieve reasonable prices and quality and thereby satisfactory market penetration. Consequently, this will secure the IFZITA with a successful start which is critical to its further development.

Manufactures considered to be suited to this initial stage are those framed in blue in the above table (Recommended Manufactures for the IFZITA).

Such a strategy would allow the necessary lapse of time for the training of a new cadre of skilled manpower to engage in more sophisticated types of manufactures which should be established at the second phase, such as those framed in orange in the same above table.

b. Notwithstanding the relatively "Limited Demand" evidenced, so far by all sophisticated manufactures included in table 13 - ("Ranking of Labour Intensive Manufactures recommended for the IFZITA") save one (36511 Household & automobile radio; 7242 Radio broadcast receivers) this mission tends to contemplate them as "Growth Manufactures". This view is based on the assumption that these manufactures will gradually improve over time the quality of their products and that at the same time the demand for such products in markets of Developed Countries will grow both due to the rise in levels of incomes and to the sinking of "traditional" commodities into obsolescence.

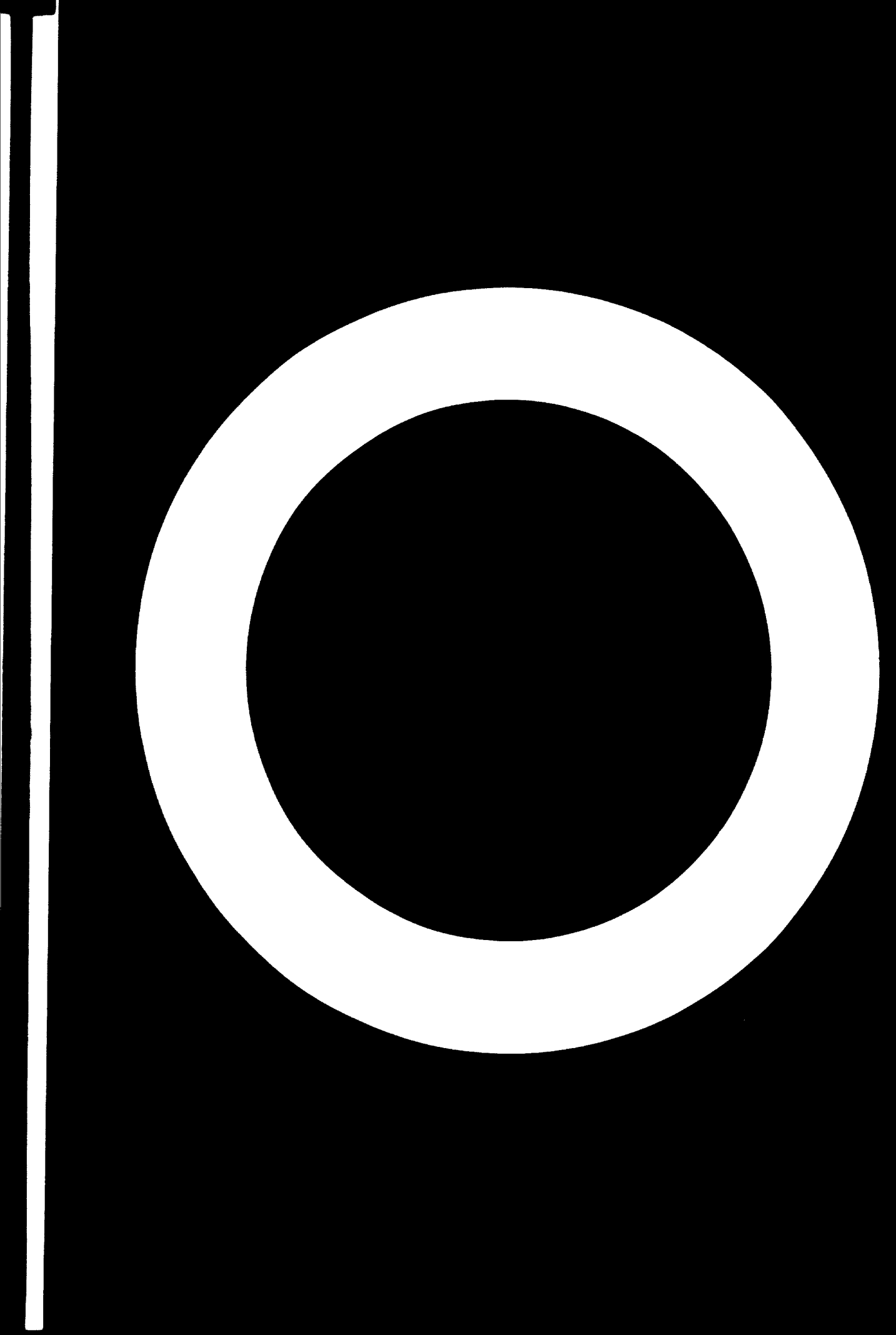
The present low level of demand generated by these manufactures can be explained on grounds of the fierce competition existing at present between Developed Countries themselves, on the one hand, and the failure of such products from Less Developed Countries to compete with them, on the other.

The latent potential which these sophisticated manufactures are believed to possess explains the important role they are expected to play in the future development of the IFZITA.

This would also throw light on the extensive efforts recommended for their initiation and further stimulation in the form of incentives and training programmes and on their proposed shares in the IPZITA's total output.

c. The shares of the recommended manufactures in the IPZITA's output have been established according to the position they have achieved in the ranking of the same above table after having conceded an exceptional share of 30% to "Clothing and Accessories" in the light of the comparatively spectacular demand the latter have evidenced, so far.

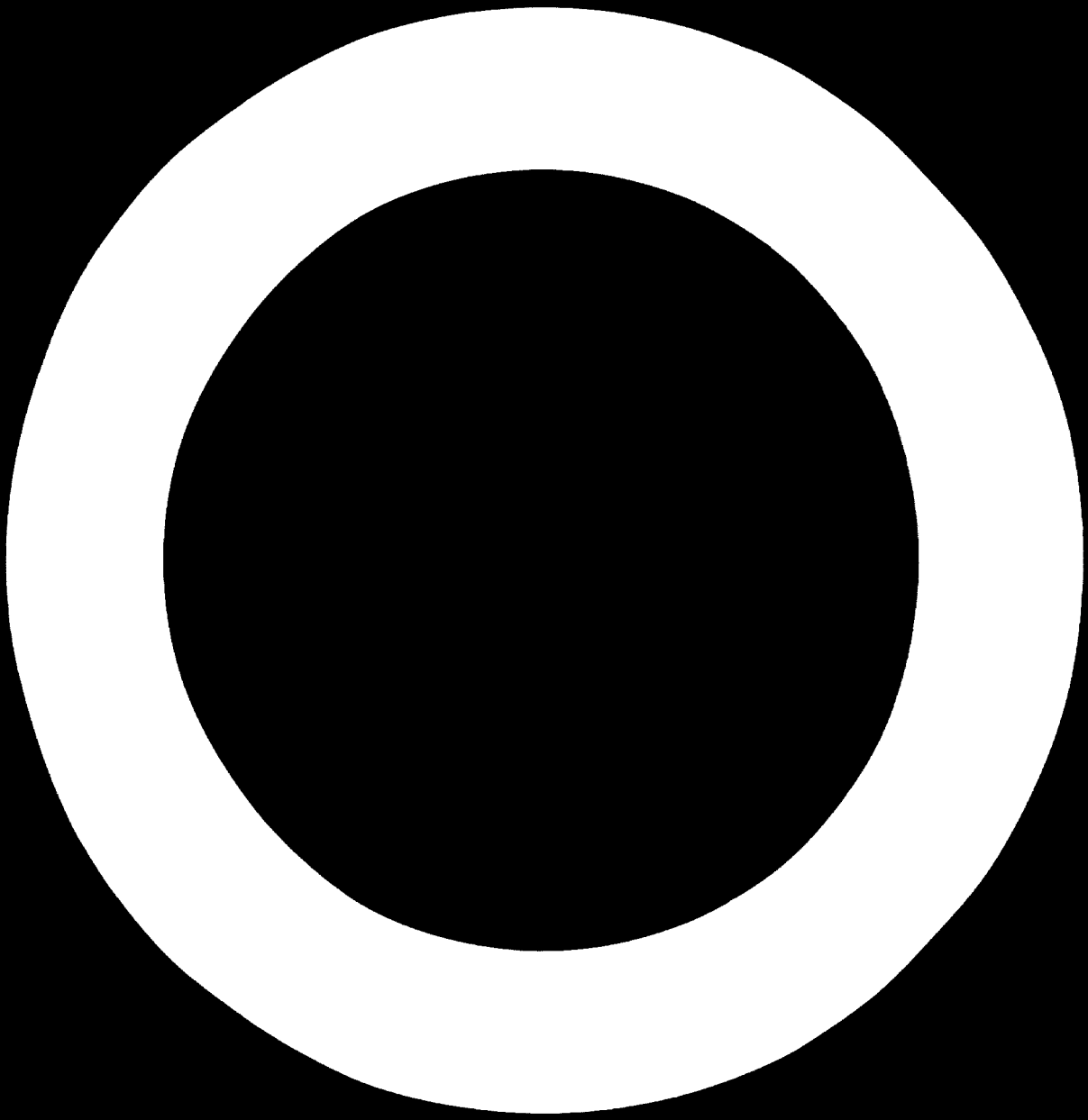
However, in line with the approach exposed above the shares of the 7 sophisticated manufactures have been slanted upwards by 15% according to a low hypothesis or alternatively by 30% according to a high hypothesis, on assumption of future enhanced growth.



ASSUMED SHARES OF LABOUR-INTENSIVE MANUFACTURES IN THE IFZITA'S OUTPUT

Main Group	SIC Code	Sub-Group	Industry: SIC Code	Industry: Description	Link note SIC & SITC	Product: SITC Code	Product: Description	Composite Ranking	Value Added/Employee in $: Composite of Industry	Value Added/Employee in $: Average	Value/Weight ratio in ($/lbs)	Demand: % of total import	Demand: % of total USA ind. import	Demand: % of total import	Demand: % of total industry import	Shares according to Present Ranking excl. "Clothing & Accessories"	Selective Industries	Changes in growth assuming enhanced selective "Industries": High Hypothesis	Low Hypothesis	High Hypothesis	Low Hypothesis
1 Clothing, Textile and Accessories	2/23	Clothing & Accessories excl. Goods of Leather and Rubber	2311 233 234 236 2384	Men & boys suits Women & misses outwear Women & children underwear Children's outwear Robes & dressing gowns		8411 8412 8414	Clothing of textile fabric not knitted or crocheted Clothing & accessories of textile fabric not knitted or crocheted Clothing & accessories of textile fabric knitted or crocheted	1	99.9 67.4 60.3 65.0 60.3	60.1	5.4	17.8	37.8	13.4	15.4	30.0				30.0	30.0
	3/36	Electrical Apparatus and Appliances	36511	Household & automobile radio		7241	Radio broadcast receivers	2	97.0	-	11.1	2.8	13.3	0.3	4.1	9.3	X	+2.8	+1.4	12.1	10.7
	4/39	Games, Toys, Sporting Goods and Musical Instruments	3941 3942 3949	Games & toys Dolls Sporting & athletic goods		894[2]	Toys, games & sporting goods	3	80.0 85.7 75.3	85.0	5.0	8.3	16.8	1.9	11.0	8.7		-2.4	-1.2	6.3	7.5
	3/36	(As above)	367	Electronic components		7291	Thermionic etc., valves & tubes, photocells, transistors	4	79.0	-	11.1	0.9	14.6	0.3	0.4	8.0	X	+2.4	+1.2	10.4	9.2
	8/39	Misc. Manufactures incl. Costume Jewelry Stationery & Notions	3961	Costume jewelry & costume novelties		8972	Imitation jewelry	5	60.0	-	5.2	0.5	20.7	0.2	6.7	7.4		-2.0	-1.0	5.4	6.4
2 Other Light-Manufactures except Food	6/27	Books & Other Printed Matter	2771 2751 2752 2753	Greeting-card manufacturing Printing except lithographic Printing lithographic Engraving & plate printing		892[1]	Printed matter	6	70.4 65.7 73.3 75.3	70.0	6.0	0.4	7.8	0.2	0.6	6.7		-1.2	-0.9	4.9	5.8
	4/30	Rubber and Plastic Products n.e.c.	30696 30697 30698 30797 30798	Rubber heels (only) Druggist medical sundries Other rubber goods n.e.c. Plastic dinnerware, etc. Consumer & commercial plastic products n.e.c.		6299 893	Articles of rubber n.e.s. Articles of artificial plastic materials n.e.s.	7	[illegible]	85.9	4.9	1.4	19.6	0.4	1.9	6.0		-1.6	-0.8	4.4	5.2
	4/39	(As above)	3931	Musical instruments & parts		891[7]	Musical instruments, sound recorders, & producers & parts	8	76.3	-	7.0	0.8	3.4	0.04	0.4	5.4	X	+1.6	+0.8	+7.0	6.2
	3/36	(As above)	3661 3662	Telephone & Telegraph apparatus Radio, TV communication equipment		724.9	Telecommunication equipment n.e.s.	9	100.6 90.0	90.3	11.1	0.6	3.6	0.1	0.3	4.6	X	+1.4	+0.7	+6.2	5.3
	2/39	Jewelry & Silverware	3914	Silverware & plateware		897	Goldsmith's ware	10	80.4	-	7.0	0.1	4.0	0.2	3.3	4.0		-1.2	-0.6	2.8	3.4
	3/35	Non-electrical Machinery and Equipment	35711	Computing & accounting machinery incl. cash registers		7142 7143 7148	Calculating machines, accounting mach. etc. Statistical machines Office machines n.e.s.	11	80.0	-	5.0	0.1	1.4	0.3	0.4	3.0	X	+0.4	+0.2	+3.4	3.2
	3/38	Optical Goods, Cameras, Watches and Instruments	3831	Optical instruments & lenses		8611	Binoculars (only)														
	3/36	(As above)	3642	Lighting fixtures		8124	Lighting fixtures & fittings, etc.		80.4	-	8.0	0.1	2.1	0.1	0.5	3.0	X	+1.0	+0.3	+4.0	3.5
	1/34	Cutlery, Tools, Hardware & Other Metal Products	34211	Cutlery, scissors, shears etc.		696	Cutlery	12	90.4	-	3.0	0.3	14.3	0.3	7.4	1.6		-0.4	-0.2	+1.2	1.4
									79.7	-	0.6	0.1	3.9	0.2	3.2	1.6		-0.4	-0.2	+1.2	1.4
	3/38	(As above)	38611	Still picture equipment		8614 8616	Photographic cameras & flash-lights apparatus Photographic & cinematographic apparatus & equipment n.e.s.	13	100.0	-	7.5	0.1	2.6	0.1	1.6	0.7	X	+0.2	+0.1	+0.9	0.8
																Total: 100.0				100.0	100.0

Table 12



2. The Investment [illegible]

2.1 General

[illegible] From most of the [illegible] from the [illegible] developed [illegible] number of [illegible] Government [illegible] focussed mainly on the [illegible] hensive and [illegible] would comprise [illegible] creating a [illegible] [illegible] "low and [illegible] possessing [illegible]

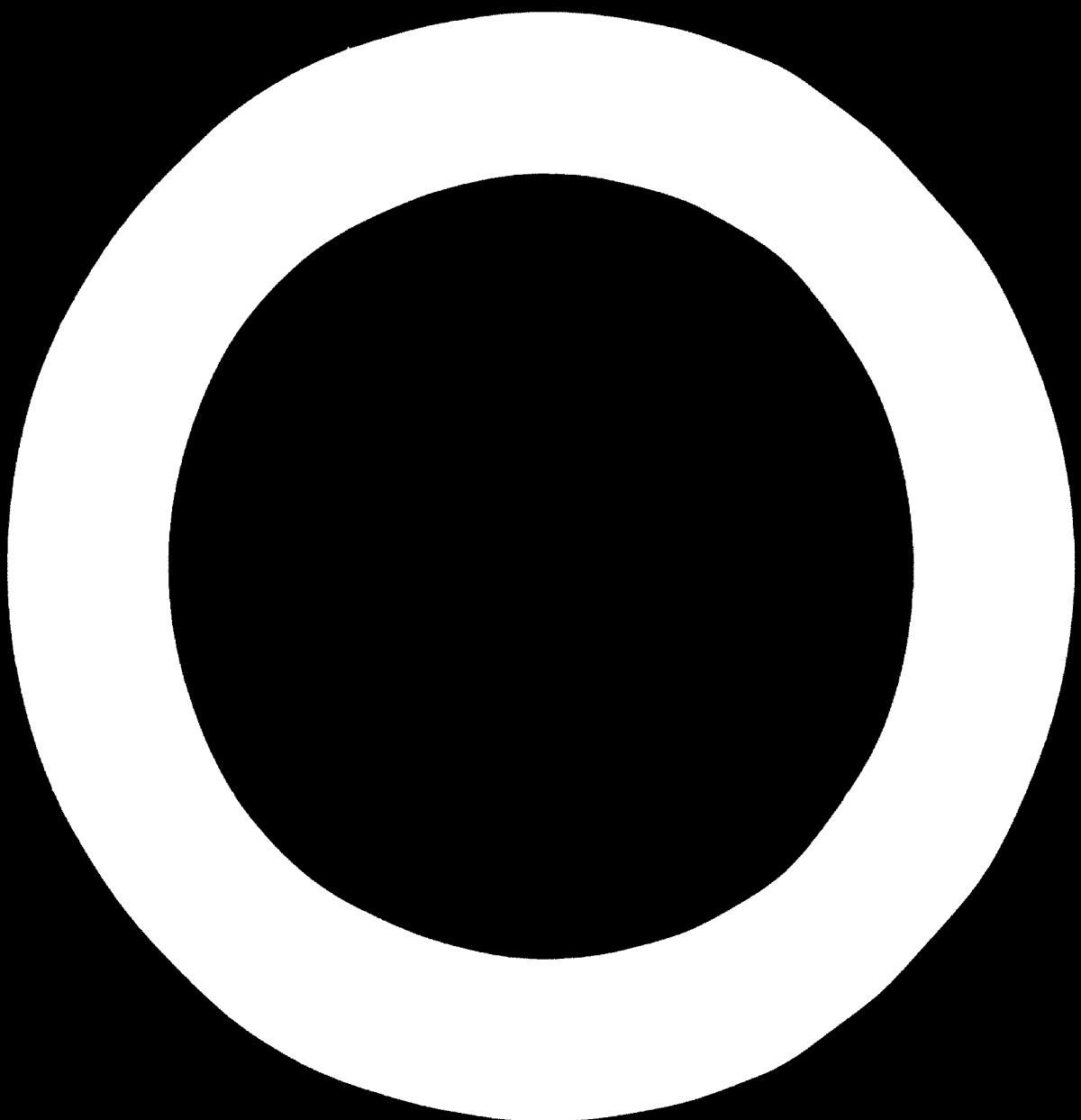
The capability of this [illegible] world known firms to establish an offshoot factory in the IFZ/ITA, either by themselves or in [illegible] with local investors, strongly depends on the [illegible] of the system and the [illegible] components to effect significant savings to the industrialists in terms of:

(1) The initial investment in fixed assets, i.e. the "sleeping capital";

(2) The production costs;

(3) The transportation costs.

It is conceded that the achievement of such objetives in the Panamanian scene-lacking cheap labour- is likely to place a considerable burden on Panama's national budget. Nevertheless, their "costs" should be assessed with regard to their critical function in the IFZ/ITA'S "take off" and subsequent prosperity and in view of the IFZ/ITA role as



3.2 Fiscal Incentives

Fiscal incentives include the following components:

a) Tax-exemption and tax-holidays

b) Cash grants

c) Financing facilities

d) Repatriation of profits and capital

e) Guarantee against nationalization of capital and property.

[illegible] IPZITA

COMPONENTS	DESCRIPTION OF INCENTIVES	SHARE IN [illegible] INVESTMENT	PERIOD LIMITS (YEARS)	SPECIFICS
TAX EXEMPTIONS	Duty-free import.	100	-	[illegible] free zone.
	Income tax exemption on capital gain.	100	-	-
	Income tax holiday on net profits from export.	100 [illegible]	First 15 years Subsequent 5 years.	-
CASH GRANTS	Non-repayable cash grants on the costs of fixed assets.	up to 35 (negotiable)		[illegible] and equipment [illegible] of the project and if fixed assets [illegible] average investment/job ratio not to exceed: at the first phase : $ 2000 at the second phase: $ 4000 The maximum of 35% is granted: At the first phase: to manufactures numbered [illegible] in table 13A; "Recommended Manufactures for first phase of IPZITA's implementation", or conceded to be similar by the IPZITA AUTHORITY Board of Directors, and featured, in addition, by the following characteristics: (a) potential for creating long-term job opportunities; (b) forward/backward linkages with existing or projected manufactures in the Zone; (c) intending to start operations as soon as possible; (d) likely to use modern techniques; (e) likely to generate large values of exports; (f) likely to have growth-potential. (g) likely to generate maximum [illegible] effects on the country's economy. At the second phase: to manufactures numbered 2,5,8,9,11,15 in table 13A: "Recommended Manufactures for second phase of IPZITA's implementation", or conceded to be similar, by IPZITA AUTHORITY Board of Directors, and featured, in addition, by the following characteristics: (a) as in first phase (b) " " " " (c) " " " " (d) " " " " (e) " " " " (f) " " " " (g) " " " " The grant is repayable if any [illegible] closed down within ten years after completion of grant payment.
	Non repayable training grants	100	-	For training of workers and management as well as costs involved in bringing consultants and training personnel from abroad.
REPATRIATION OF PROFITS & CAPITAL	Repatriation of net profits	100	-	From end of first year of operation.
	Repatriation of capital		-	15% annually from first year of operation.
FINANCING FACILITIES	Loans whose rates would be down to 30% lower than those obtaining in the finance market, negotiable (2)		3	For rent of standard factory buildings, or
			10	for construction of individually designed factories or for usage of working capital.
	Reduced tariffs on usage of utilities		3	
	Reduced charges for common services warehousing and aerotransportation services		3	

Source:

(2) In line with conditions for cash-grants as above.

Physical Incentives

Physical incentives include [illegible]

(1) Provision of infra-structure

(2) provision of pre-levelled [illegible] individually [illegible]
and buildings including [illegible] pre-built [illegible]

(3) provision of common [illegible]
within the [illegible]

PHYSICAL INCENTIVES RECOMMENDED FOR THE IEZITA

COMPONENT	DESCRIPTION OF INCENTIVES	CHARGE TAKEN OR RENT-IN % (1)	SPECIFIC
INFRA-STRUCTURE AND UTILITIES	Roads and parking	Reduction on [illegible]	
	Power	25% per [illegible]	Low tension industrial [illegible] High [illegible]
	Water	25% per [illegible]	
SITES AND FACTORIES	Pre-levelled Lots	Monthly rent [illegible] 15% off non profit rate.	For individually designed factories
	Pre-built Standard Factories	20% and instalments Reduction on [illegible] 20% off non profit rate.	For purchase through cash [illegible] For rent through financing facilities
SERVICES COMMON-SERVICES AMENITIES	-Warehousing & transportation services & -machines & parts repair shop -maintenance-shop -post & telegraph -banks -first-aid station -petrol-station -fire-brigade -police & guard station amenities: -canteen -cafeteria-restaurant -[illegible] market & small [illegible] - recreation and sports grounds		

(1) Reduction effective for the first 5 years such incentives of minor investment value have a major psychological effect in the promotional activities

X.4 Organizational Incentives

Organizational incentives include two components:

(1) The establishment of a development authority,

(2) housing the branch-offices of supporting agencies in the same administration building within the zone and under the same direction.

ORGANIZATIONAL INCENTIVES RECOMMENDED FOR THE IFZITA

COMPONENT	DESCRIPTION OF INCENTIVE	SPECIFICS
ESTABLISHMENT OF A DEVELOPMENT AUTHORITY	Expeditiousness of decision making and simplification of various administrative procedures.	- Promotion and contacts with industrialists abroad - Screening of applications - Negociations with industrialists - Approval of tax exemptions - Provisions of cash grants, loans, etc. - Issuance and endorsement of export licences, import licences from local market (if needed) - Approval of factory building plans individually designed. - Proceed with development works and infrastructure. - Proceed with the pre-built standard factory buildings. - Liaise with the airport authorities. - Liaise with other governmental offices (ministries)
ESTABLISHMENT OF BRANCH OFFICES OF SUPPORTING-AGENCIES WITHIN THE ZONE	Efficiency of operations	- Custom authorities - Tax authorities - Employment services - National bank - Post and telecommunication offices

4. The Management Structure

4.1 General

Development of an Industrial Free Zone at the Tocumen Airport requires the establishment of a development authority - THE IFZITA AUTHORITY.

The legal status proposed for the IFZITA AUTHORITY is that of a Public Development Authority, directly supervised and ultimately controlled basically by the ministries of Comerce and Industry in close co-operation and consultation with the Ministers of Finance and Treasury and Minister of Planning and Economic Policy.

A Board of Directors is to be appointed by the above Ministers and to be consisted of five (5) members-four members and a chairman.
Chaired by a representative of the Minister of Commerce and Industry. The Board will Comprise:

2 Members on behalf of the Minister of Commerce and Industry
1 Member on behalf of the Minister of Finance and Treasury
1 Member on behalf of the Minister of Planning & Economic Policy
1 Member on behalf of the Minister of Interior & Justice

The Board should devise policies and strategies such as:

- criteria for selection of enterprises;
- goals and programmes in regard to value of production and exports for a certain period;
- The magnitude of incentives ;

(Should be drafted initially by the Board and will have to be adjusted to fit ultimately a consensus view of the three ministries involved.)
The degree of autonomy yielded to the Board will be gradual: Rather limited at early stages, it will progressively be delegated with decision-making powers after reaching maturity and experience.

The authority is to implement decisions attained on the Board via eight Operational Divisions leaded by a General Manager who is the chief executive and directly responsible to the board.

The Operational Divisions are the following:

(1) Industrial Promotion
(2) Planning and Construction
(3) Management and Maintenance of Fixed Assets
(4) Control and Management of Operations
(5) Foreign Exchange and Trade
(6) Financial Facilities
(7) General Services
(8) Internal Administration

The IFZITA AUTHORITY should be supported by agencies of the following Government offices:

The Customs
The Tax Bureau
The Post Office
The Telecommunications Office
The Commodity Inspection Bureau
The INTE Electric Power Supply Co.
The IDAAN Water Supply Company
The National Bank of Panama

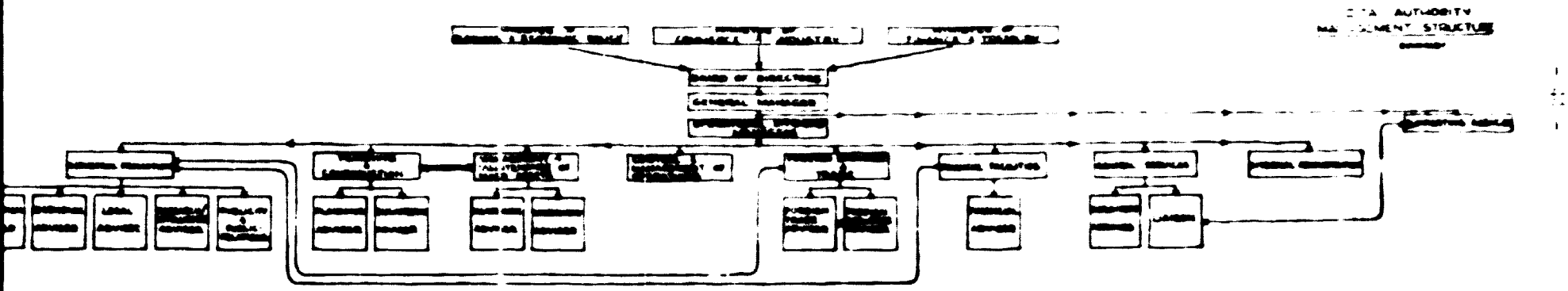
4.2 Preparatory course of action for the establishment of the IFZITA AUTHORITY

The IFZITA Authority should be established as a statutory body. This will require the following courses of action:

(1) Appointment of an ad-hoc committee to draft an act regarding the establishment of an Industrial Free Zone at the Tocumen Airport, including the demarcation of its territorial boundaries;
(2) Approval of the above act by the Government;
(3) Endorsement of the above act by the legislative body;
(4) Promulgation of the act ;
(5) Establishment of IFZITA AUTHORITY - to build, promote and admister the IFZITA;
(6) Endorsement of an act empowering the Minister of Finance to provide the IFZITA AUTHORITY with capital for the construction of the Industrial Free Zone, for payments of grants, loans, subsidies and running expenses;
(7) Appointment of the IFZITA AUTHORITY'S BOARD OF DIRECTORS;
(8) Appointment of the Board's Chairman ;
(9) Appointment of the General Manager;
(10) Assignment of the above ad-hoc commitee to formulate regulations for the operation of the IFZITA;
(11) Endorse the above regulations as acts in the legislative body;
(12) Empower the IFZTIA AUTHORITY to enact the above regulations;

It is suggested that the above ad-hoc committee should be initiated by the Ministers of Commerce and Industry in consultation with the Ministries of Finance and Treasury and of PLANNING AND ECONOMIC POLICY

The following chart portrays the Management Structure proposed for the IPZITA.



5. THE GOVERNMENT OF PANAMA - COURSES OF ACTION

5.1 General

This mission suggests the year 1976 as a TARGET YEAR for completing the implementation of the 1st phase of the IFZITA.

This proposal intends to co-ordinate, by and large, with the target-year established for completion of the Tocumen Airport and enable a joint inauguration of both.

In addition, the period of time between the years 1975-76 (estimate) to be sufficient both for the construction of the 1st phase and the other various courses of action in view, as specified below.

5.2 Courses of Action

The Government will have to take the lead in the following actions:

(a) The setting up of a number of Committees.

(b) The Appointment of a Board of Directors for the IFZITA Authority.

(c) Establishment of a favourable climate for export-oriented manufacturing.

5.3 Committees

The setting up of the three following Committees is recommended:

(a) An Interministerial Committee

(b) A United Nations Advisers ad-hoc Committee

(c) A Government Standing Committee

The interministerial committee -- expected to draw initial rudimentary lines of action — is to include four members as follows:

(1) the Minister of Commerce & Industry - Chairman & Promoter;

(2) the Minister of Finance & Treasury;

(3) the Minister of Planning and Economic Policy;

(4) the Minister of Labour & Welfare.

The United Nations Advisers ad-hoc Committee is to investigat problems related to training of manpower and to wages/productivity relationships. It is to operate on a limited-time basis until completion of study and formulation of recommendations. This Committee is to include 2 members currently carrying out U.N. missions:

(1) Director of: Projecto de Formacion Profesional"(PNUD/PAN/525) from OIT(ILO) Agency

(2) Director of: Projecto de Artisania Industrial" (PNUD/PAN/520) from OIT(ILO) Agency.

The Government Standing Committee should serve as a permanent advisory capacity after the U.N. advisers ad-hoc committee has completed its investigations and presented its recommendations to the Interministerial Committee.

This Committee is to include 9 members:

2 members representing the Ministry of Commerce and Industry out of which one at the chair

1 member representing the Ministry of Finance & Treasury

1 member representing the Ministry of Labour & Welfare

2 members representing the Syndicate of Local Manufacturers

1 member representing the Central Syndicate of Workers

2 members representing the Syndicate of Workers in the Manufacturing Industry.

The required quorrum for decisions should be at least 6 members. This Committee should be entitled to Technical and Administrative facilities including 5 persons.

5.4 Setting-up the IFZITA AUTHORITY

One of the major actions of the Interministerial Committee is to set up a Board of Directors for an autonomus Development Authority for the promotion, erection and running of the IFZITA (see 4 "The IFZITA Management Structure").

5.3 Establishing a favourable "Climate" for exports-oriented manufacturing.

The establishment of a favourable climate for export-oriented manufacturing should focus on 2 key issues:

(a) Training of manpower

(b) Achieving a consensus view in respect of wages/productivity constant relationship.

These two topics are in a way interrelated and any action suggested below affects both.

At the first instance it rests with the Government to initiate extensive programmes for training of manpower.

Concurrently it should initiate co-operation between parties involved in manufacturing, i.e., between the
Government itself and the Industrialists;
the Government and the workers' syndicates;
the industrialists and the workers' syndicates.

The Government should also enable those involved parties to draw on the lessons of other countries having gathered experience and achievements in production for exports. In line with this approach the sponsorship and financing of some specific programmes would be desirable as follows:

(a) Joint study-tours for chiefs of workers' syndicates and for senior managerial staff of factories in which they would be able to witness working conditions, general working atmosphere and learn on levels of productivity and their related essential conditions.

(b) Working trips for selected skilled manpower and senior staff of factories. The former would get an opportunity of improving their knowhow and technology, and practice on sophisticated machinery; the latter would be able to acquaint themselves with new and advanced management techniques.

(c) Public relations campaign using all available communications media such as press, telecommunication, radio and television to stimulate public awareness on the broad advantages and opportunities stemming from industrialisation for both the country as a whole and individuals which may be involved or interested in the process.

(d) Concurrently a parallel advertising programme should be launched for publicity overseas.
Advertising material should be hammered out to be presented to commercial attaches in the local embassies and to commercial circles abroad.

This action should be taken up jointly with the FIZITA AUTHORITY.

6. The Physical Plan

6.1 Locational Criteria

Factors determining the location of the IPZITA within the Tocumen Airport fall into three main categories:

(1) Environmental
(2) Functional
(3) Physical

Parameters assigned to the Environmental criteria are the following:

1.	Limit of acceptable Noise Exposure	100 CNR or 30 NEP
2.	Minimal distance from runway for factories emitting electronic waves	1000 ft or 330 M.

Components of the Functional Criteria are the following:

1. Location in proximity to cargo terminal with no severance between the two and at a reasonable distance for trucking of goods while Cargo Terminal is kept at the shortest possible distance from runways.
2. Easy communication with other airport functions (passenger terminal, etc.)
3. Adequate accessibility by road (both to the Free Zone and to the Cargo Terminal)
4. Situation in relation to Airport boundaries.
5. Size of about 55 ha.
6. Shape enabling the design of a functional layout.
7. Space for future territorial expansion.

Components of the Physical criteria are the following:

1. Topography almost flat with a gradient not exceeding 4%.
2. Soil conditions permitting economical foundations and economical solution for the ground floor.
3. Land ownership whether private or public presenting no difficulties and permitting prompt acquisition.
4. Area free of existing buildings and other "facts" or "objects".

6.3 The Recommended site for the IFZITA

The site within the Tocumen Airport which has proved to be the most viable option by exhibiting the highest possible degree of compatibility with the above criteria is located on the Northern side of the Interamerican highway and is framed by natural and man-made elements, which makes of it an entity:

the Tocumen River borders the site on the East
the Manganita stream - on the West
the old interamerican highway on the North
the present " " on the South

It also contains already a few industrial plants, hence, its appropriateness to become in future entirely allocated for industrial use.

Its only draw-back would be the "Existing Objects" within its confines.

However, this does not seem to present an insurmountable problem

6.4 Layout determinants

Features of the site considered as determinants for the IFZITA layout are the following:

1. Existing objects
2. Topography
3. Soil condition

The objects included with the site in question are the following:

1. IFARHU - training institute
2. MIRAFLORES - factory for cement pipes
3. DIGEDECOM - Governmental Agency for Community development
4. MARTINEZ - plant for maintenance - repair of heavy equipment.
5. J. PARDOS - stockyard related to a construction firm.
6. FARM.

These objects would fall into two categories:

The first category:

would include IFARHU, MIRAFLORES, J.PARDOS and the FARM.

These objects extend on large land areas situated on the periphery of the site. Their exclusion from the site, seem therefore, to involve no more than slight boundaries' adjustments which, to the best of our judgement, would pose no particular problem.

The second category:
would include DIGEDECOM & MARTINZ which while extending on small land areas are situated, though, in the heart of the site.

The topography in the section extending from the Wood in the East to the Western boundaries of the FARM and MIRAFLORES in the West is more convenient for industrial development. Nevertheless, topography seems to present no particular problems on the whole. Information on soil condition is very scarce, drawing on the findings of a few pitholes which have been carried out, one may believe that no problems will arise in this direction either.

6.5 Layout criteria

The criteria which has been established for analysis of alternative layouts are the following:

(a) Layout's quality (situation, boundaries, road pattern, shapes)

(b) Compatibility with the natural features of the site.

(c) Achievement in resolving the conflict arising from "Sensitive Objects".

(d) Distance from the Cargo terminal.

6.6 Planning Principles

Planning principles are as follows:

1. Lots should be accessible by a front and rear road.
2. The Standard Module lots' longer sides should face North & South.
   a) to gain sun heat,
   b) [illegible]
   c) [illegible]
3. All lots should have fronts & rears for East and West.
4. Lots' and buildings' frontages should be modular - 4' 8" and 19' 8" respectively.
5. Space between buildings should be in modular - 19' 8" - to enable an orderly, easy and economical expansion;
6. The Zone's Main Road should provide a direct link between the centre of the Zone and the Cargo Terminal;
7. The Zone should have along its boundaries a "Watch & Ward" Road;
8. The Zone should include, health, industrial, uses, administration, commercial services, recreation, department store and supermarket, and bus station.
9. Wood area along the Tevuman River to be preserved.

6.7 Alternative Layouts

Taking into consideration the above determinants, three alternative layouts were determined; two of which have taken opposite extremist views in respect of the "Sensitive Objects" DIAGRAMS 4 HARMONY - the third seeking an attempt for co-existence.

6.8 The Recommended Layout

The layout which has exhibited the highest possible compatibility with the above criteria is based on the following assumptions:

Assumptions:
1. The "Sensitive Objects" DIGEDECOM & MARTINZ can be transferred.
2. Marginal boundary adjustment to IFARHU, MIRAFLORES & J.PARDOS lots would pose no problems.
3. Land levelling required by the plan would pose no problems.
4. Soil conditions over the entire area — adequate for construction.

Situation of plan within the site

The plan extends from the Wood in the east to the Manantia river in the West and to the J.PARDOS and the FARM properties in the North. On the south, it is bordered by the IFARHU & MIRAFLORES properties and further on by the Interamerican Highway.

Boundaries

The plan's boundaries involve, thus, marginal adjustments to lots of the above bordering properties; each property is offered contiguous land for compensation.

Size

The plan covers 55 ha approximately.

Road Pattern

The road network forms a grid pattern in which the large roads are the servicing roads and the narrower ones provide for accessibility to the management section of each factory.

Access to the Zone is provided by an existing road (unpaved at present) branching off the Interamercian Highway which is to be enlarged and obviously paved and landscaped to perform its new role.

This road stretches between the IFARHU and MIRAFLORES properties and allows access to them and continues to meet the boundary of the Zone and from thereon to the intersection with the Zone's Main Road.

The Main Road of the Zone runs in East West directions and leads eastwards to the Cargo Terminal.

Two loops branching off this Main R... constitute the servicing roads to the entire area.

Along the boundaries runs a "watch and ward" road which serves at the same time front access to factories.

The above Access road will be substituted after 1985 by a new one branching off the multi-level intersection that is envisaged on the Interamerican Highway.

Land uses

The public facilities are situated along the Main Road: the IFZITA AUTHORITY administration centre and the Common services buildings near the intersection with the Access Road, and further to the West the bus station, shopping and a large recreation area.
Individually designed factories also face this road to provide for attractive architectural appearance.

Factories emitting electronic waves are located in the Western part of the plan to achieve maximal distance from runways.

Total gross area	56.33 ha.	= 100.0%
Industrial lots	36.09 ha.	= 64.1%
Roads	13.61 ha.	= 24.1%
Bus central station	0.55 ha.	= 1.2%
Administration	2.20 ha.	= 4.0%
Recreation/open space	1.42 ha.	= 2.5%
Amenities	0.57 ha.	= 1.0%
Sewage treatment plant	1.87 ha.	= 3.3%

6.9 Strategy of Implementation

The strategy of a phased implementation for the Zone, which was put forward in the discussion "Types of Manufacture" (see Chapter Three 2...5), should find its parallel in the physical plan.

Consequently, it is suggested for the Zone to be developed in two phases:
In the first phase, the section at the core of the plan should be developed from the west boundary of the "Sensitive Objects" westwards. This would allow co-existence with DIGEDECOM and MARTINZ without causing any disruption to the road network on the one hand, and would allow sufficient time for their relocation elsewhere.
In the second phase, with the development of the remaining sections the eastern including the DIGEDECOM & MARTINZ site and the western and northern peripheries - the Zone will attain its ultimate size.

(a) Feasibility

The main issues that arise in examining the feasibility of the Recommended Layout (Layout A are the following:

1. procedures for land acquisition (whose major part is in private ownership)
2. negotiations with DIGEDECOM & MARTINZ

In respect of the first issue, owners have been already approached by correspondence. No negative reactions have been received. Land acquisition can be, therefore, regarded as feasible.

In respect of the second issue, there is reasonable certainty for DIGEDECOM - a governmental institution - to be convinced to move to another location; concurrently, one can assume that MARTINZ may also be convinced in view of its close working contracts with the Government.

The Government should delegate powers to the IPEITA AUTHORITY to proceed with the necessary negotiations.

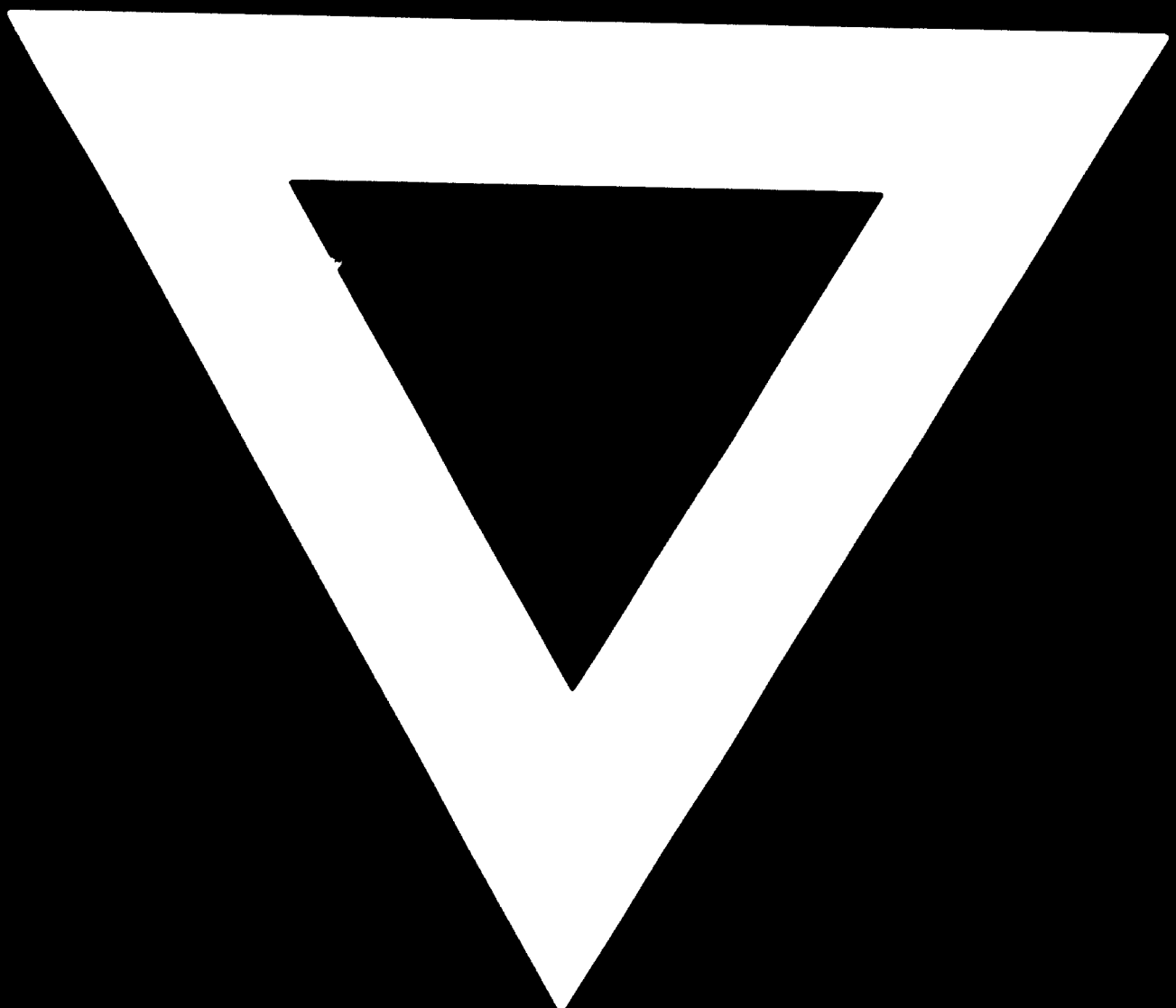
(b) Courses of action

The courses of action implied in the implementation of the Recommended Layout would be the following:

1. Negotiations with [illegible] with view to explore the following compensation options:
   - provision of a new land area and buildings similar to those it possesses at present;
   - provision of a financial compensation respective to the value of their property.

   The allocation of this area for development in the second phase has the deliberate intention to allow sufficient time for the relocation plot.

2. Negotiations with PARTINZ intended to examine the following compensation options:
   - provision of a new land area in proximity to the present one;
   - provision of financial compensation: for dismantling the roof sheets and the metal construction of the existing sheets and for mounting them in the new location;
   - for construction parts which cannot be transferred (walls, concrete pillars & floor, concrete pits, etc.);
   - for the office
   - for dismantling and mounting fence and gate.



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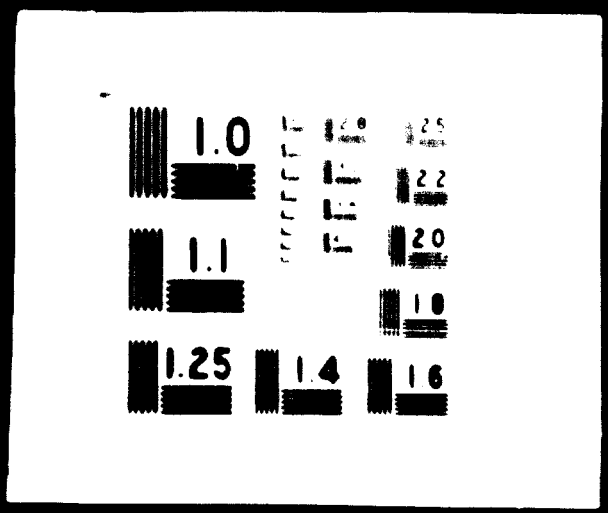

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CHAPTERS THREE and FOUR

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ESTABLISHMENT OF AN INDUSTRIAL FREE ZONE AT THE TOCUMEN INTERNATIONAL AIRPORT PANAMA[1]

by

Arie Cohen
UNIDO Expert

(IS/PAN/71/803)

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* (PART ONE) UNIDO/TCD.226 SUMMARY - Bibliography, Acknowledgements, Terms of Reference, Introduction, Conclusions and Recommendations

(PART THREE) UNIDO/TCD.226/Add.1 - The Socio Economic Context (Detailed)

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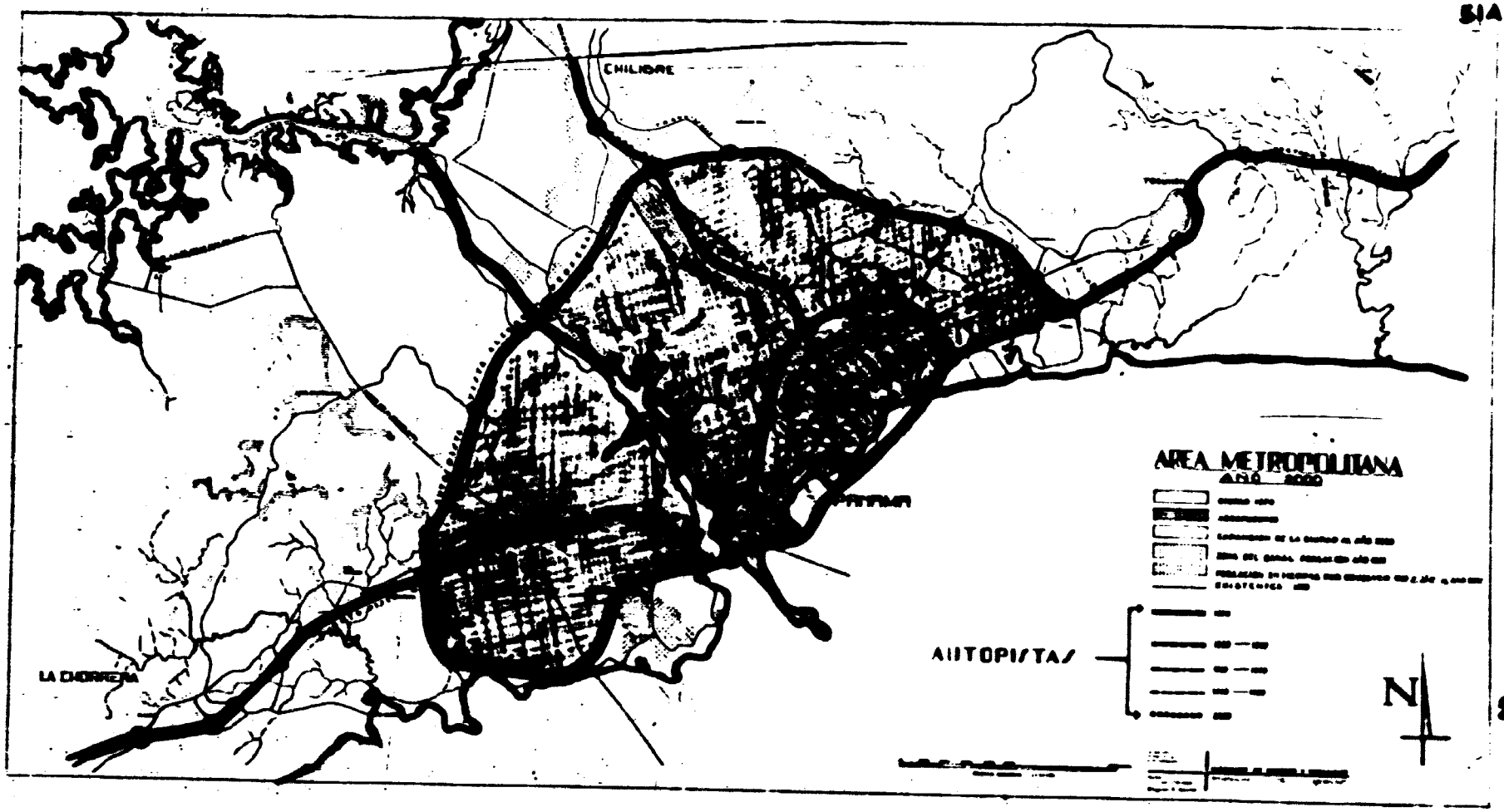
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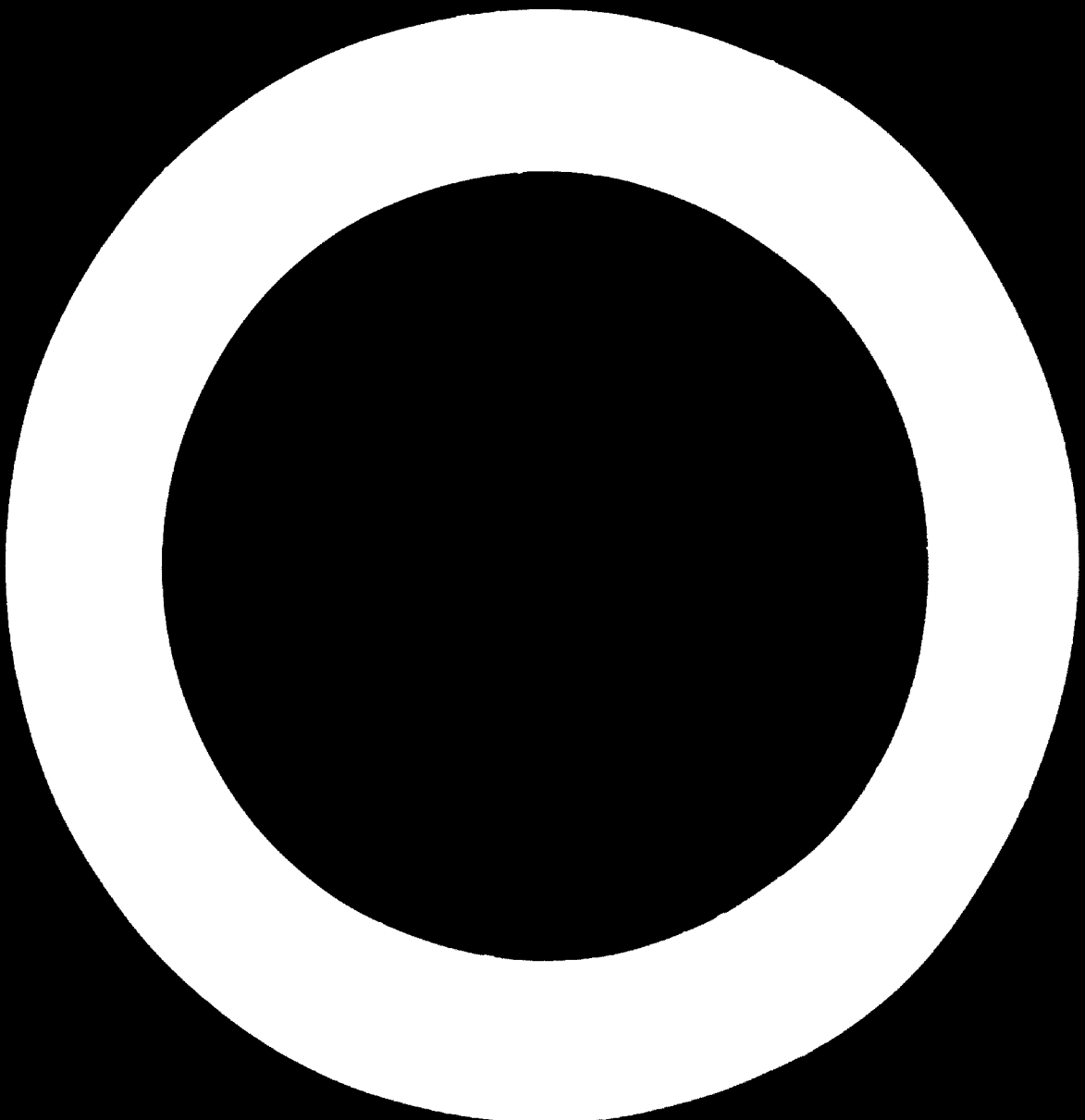

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CHAPTER THREE: THE SOCIO-ECONOMIC CONTEXT - SYNOPSIS

1. POPULATION GROWTH AND SPATIAL DISTRIBUTION

1.1 Panama's population accounts today (1970) for 1.5 million inhabitants and is expected to attain 2.0 million by 1980.

1.2 During the past decade 1960-70, the total population has grown at a yearly rate of 3%, whereas the urban population has effected a considerably faster growth at a rate of 4.2%.

1.3 The spatial distribution of the population in 1970 has displayed patterns of nodality at various levels:

(a) At the national level - with the Metropolitan Area comprising 46% of the country's population and only 1% of its land area;

(b) at the Metropolitan level - with the Panama Province containing 80% of the Metropolitan Area's population;

(c) at the city level - with Panama City concentrating 40% of the country's population as a whole and 78% of its urban population.

1.4 The city-size distribution is Primate, Panama City with 420,000 inhabitants dominates a stratum of small towns, the largest of which - Colon - is six times smaller.

1.5 Past trends reveal a gradual consolidation of the above patterns over time:
The urban areas which have grown faster than the rest of the country have shared 60% of the total population growth.
Panama province with a still faster growth rate - 4.2% - has shared 60% of the total urban growth.
However, Panama Province has effected no growth in 1970, the reasons for which have yet to be traced.

1.6 The particular attractiveness of Panama City is evidenced by the in-migrating population which has added up to about 84,000 people during the 1960-70 period.

1.7 Participation rates of Manpower[1] are on average today (1970) 61.3%, with 87.7% for men and 35.4% for women.

Forecasts in respect of 1980 establish a similar average - 61.1%, a lower rate for men - 85.1% and a higher rate for women - 36.4%.

(1) Manpower - economically active population, age groups between 15-65 years

2. EMPLOYMENT AND UNEMPLOYMENT

2.1 The total employment demand engendered in 1970 by the labour force (1) was of the order of ... 466,000
Yet the total supply of jobs (2) has attained only 433,000
The resulting redundancy has accounted for 33,000 unemployed

2.2 Unemployment constitutes a major problem in Panama's socio-economic life; it indicates on a sub-utilisation of the labour factor bearing adverse effects on economic growth, on one hand, and on the incapability of 2.3% of the population or 7.1% of the labour force to support itself, on the other.
The true social dimension of the problem is revealed by the percentage of families having no working member which attains 9.3%!

2.3 The unemployment problem is exacerbated by the sub-employment.(3)
Sub-employment, although not reflected in the censal figures is estimated to affect 12.8% of the labour force and to be, therefore, equivalent to 6.4% unemployed.
Adding the latter to the 7.1% unemployed, real unemployment attains a fairly high proportion of 13.5% in the labour force.

2.4 However, during the past decade the dimension of unemployment appears to be somewhat relieved: from 2.8% in the total population in 1960 to 2.3% in 1970 and from 9.1% in the labour force to 7.1%. Nevertheless, in finite numbers unemployed have increased by 3000 persons.

2.5 Unemployment presents a more serious problem in the Metropolitan Area as it includes the major part - 73% - of the country's unemployed.
It appears that the Metropolitan Area has been continuously attracting job seekers from all over the country and consequently the rate of unemployment has been higher - 9.8% - than the average and also no amelioration, whatsoever, could be effected even after providing jobs at higher growth rates than anywhere else in the country at 5.4% as compared with 3.1% the country's average.

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(1) Labour force - percentage of Manpower seeking employment.

(2) Jobs - The actual number of employed persons.

(3) Sub-employed - employed only 50% of working days.

2.6 Unemployment shows a singular concentration among young age groups 15-29. Three quarters of unemployed belong to these ages which means that one in four young persons are unemployed.

2.7 It is assumed that the unemployment problem has largely resulted: (a) from the redundancy created in the agricultural sector and the incapability of the other sectors of the economy to absorb it; (b) from the limited occupational opportunities for unskilled young workers.

2.8 For 1980 a total labour force of 557,000 persons is anticipated whereas jobs are supposed to range between 600,000 (according to a low hypothesis) and 650,000 (according to a high hypothesis).

The high hypothesis implies a notable reduction of unemployment ....to 7000 persons
whereas the low hypothesis indicates on a further aggravation the unemployment problem to attain a total of .... 58,000 persons

2.9 The employment policies in respect of 1980 (within the frame of the high hypothesis), which suggest a total of 218,000 new jobs, are aimed not only at resolving unemployment but also at precipitating the growth of some selected sectors of the economy, namely:
Industry, Commerce and Services - the major motivations of economic growth - and construction and transport - the main responsible for physical development.

Alternatively, those policies (within the frame of the low hypothesis) which suggest a total of 157,000 new jobs only are not only likely to exacerbate the unemployment problem as such, but also by keeping at the present sectorial structure, are bound to let unemployment grow in those sectors where redundancy already exists. Additionally this would mean a further delay in the development of the industrial sector.

2.10 Although trends over the decade indicate on a slow but gradual transformation of the economy from agriculture - oriented to service-oriented - jobs in the non-agricultural sector having grown at a double pace (6.2%) than the average (3.7%) - the agricultural sector has not yet lost dominance and comprises still 36% of total jobs.

2.11 Information on salaries is available for four occupational groups.

A - unskilled workers
B - artisans
C - employees in administration
D - professionals

At the lack of more comprehensive data, it has been considered to represent by and large the non-agricultural sector of Panama's economy.

2.12 The mean salary of the above groups is
B/304 in the Metropolitan Area and
B/250 in the rest of the country.

2.13 The disparity between salaries in the Metropolitan Area and elsewhere is pursued right through the scale.
The discrepancy grows to 25%-40% at the bottom of the scale and shrinks to 10% at the top as follows:

A - unskilled worker	- B/102 ;	B/74
B - artisans	- B/150 ;	B/125
C - employees in administration	- B/180 /460 ;	B/138 /143
D - Professional	- B/635 ;	B/570

2.14 The D group - the Professionals - causes a sharp upward slanting of the mean salary; which otherwise would not exceed B/250 in the Metropolitan Area a nd
... ... B/186 in the rest of the country.

2.15 Salaries in the Private Sector are on average higher by 20% in comparison with the Public Sector.
Disparities, however, do not exceed 8%-10% in the A & B groups, but attain 30% in the D group.

2.16 The considerably low salaries of the A & B groups (unskilled workers and artisans) ranging between B/100 - B/150 in the Metropolitan Area, and B/75 - B/125 in the rest of the country are of specific interest in the context of the foregoing feasibility study.
Low salaries to manpower forming the majority of employed in the industrial manufacture sector might encourage foreign-based industrialists to establish labour-intensive manufacturers in Panama.

This fact merits special emphasis in order to prevent the biased impression produced by the mean salary which is truly high for a developing country.

2.17 Similarly, the high mean salary in the Canal Zone - B/625 - should be seen in the right background: this mean is sharply slanted by the North American salary component which attains B/1112; otherwise it would have been no more than B/449. But even so, it is an exceptionality created by the dominance of the American labour legislation in the Canal Zone which is not practiced elsewhere in Panama.

2.18 Finally, the relatively high salaries of the experienced Professionals (in the D group) merits to be mentioned: from among the various professions in this group the Medical Doctors, Economists, Micro-biologists and Civil Engineers seem to generate the highest tension between supply and demand and, therefore, have succeeded to climb to the top of the scale.

3. GROSS DOMESTIC PRODUCT

3.1 The GDP of Panama today (1970) is of the order of B/760 millions a year and has grown at a yearly rate of 8.1% over the past decade.
This rate has placed Panama at the fourth place among Latin American countries with only Brazil, Mexico, and Bolivia ahead.

3.2 The GDP per capita is (1970) B/530; its annual growth rate for the decade - 4.2% - has placed Panama ahead of all Central and Latin American countries.

3.3 The GDP per employee is on average
B/1754;
B/1000 - in the agricultural sector;
B/2000 - in the industrial sector; and
B/3000 - in the services sector.
This annual growth rate - 4.2% - is similar to that of the GDP per capita (4.2%) and half the rate of the GDP as a whole (8.1%).

3.4 Levels of productivity as represented by job/product ratio indicate on the agricultural sector as having the lowest level of productivity with a ratio as high as 1.7. Services have a fairly low level with a .....1.1 ratio Industrial manufacture, a medium level with a ...0.6 ratio and, Engineering services the highest level with a .....0.3 ratio.

3.5 Inspite of the decline of the share of the agricultural sector in the GDP from 28% in 1960 to 21% in 1970 and its low rate of productivity, it still provides the largest contribution to the GDP. The main sectors of the economy - Industrial Manufacture, Commerce and Services - provide all smaller contributions - 18%, 13% and 18% respectively.

3.6 In 1980 the GDP is assumed to attain a value ranging between B/1,640 millions (according to a high hypothesis) and B/1,422 millions (according to a low hypothesis).

The high hypothesis implies a yearly growth rate of 8.0%, and is in line with present trends.

The low hypothesis implies a slow-down in the economy's expansion to a yearly rate of 6.5%.

However, by both hypotheses, four sectors are supposed to effect a relatively enhanced growth (above the average) in the following order:

Banking	... 9.9% - 12.2%
Engineering services	... 9.0% - 11.1%
Transport	... 8.8% - 10.8%
Industry	... 8.4% - 10.3%

3.7 It is of interest to note that enhancement of the above sectors is envisaged also by the low hypothesis, although this does not show-up in terms of jobs, as emerges from the corresponding jobs low hypothesis.

4. THE INDUSTRIAL MANUFACTURE SECTOR

4.1 Panama's level of industrialisation at present is considerably low:

The number of industrial workers per 1000 population is 33 only.

The share of industrial jobs in the total jobs is 13% only.

The share of GIP in the GDP is 18% only and the GIP per capita B/96.0 only.

4.2 Panama's industrial manufacture today is consisted mainly of light industries - food, drinks, tobacco, clothing and footwear, furniture and leather products - which supply more than half of the sector's jobs.

4.3 Industrial manufacture has been geared so far to produce import substitute commodities: food, drinks, tobacco, clothing, footwear, furniture and leather products. Nevertheless, progress has been, so far, rather limited and Panama remains dependent on foreign supply for 65% of its domestic needs which are mainly in acids, oil, food, clothing and furniture.

4.4 Two thirds of the sector's jobs are concentrated in the Metropolitan Area.

The true dimension of this concentration is perceived when compared with the lower concentrations of the total jobs - 51% - and population - 46% - in this area although quite high in themselves. Moreover, this area appears to concentrate selected strata of the sector's work, as it contains only 47% of the sector's low income workers (B/25 a week and less).

4.5 The industrial labour force is consisted today (1970)
of 51,200
jobs in the sector account for only 47,800
jobs resulting in an unemployment of ... 3,400 persons.

4.6 Although the share of unemployed in the sector's labour force is (1970) - 6.6% - somewhat lower than the country's average - 7.1% - it is, nevertheless, considerable.

4.7 Industrial jobs have grown over the past decade more rapidly than total jobs:
Annual growth rates being 7.1%
as compared with 3.7%
in the economy as a whole.
Inspite of this 1,400 new unemployed have emerged in the sector.

4.8 Forecasts, in respect of 1980, anticipate jobs in the sector to range between 67,500 and 77,800, i.e., 20,000 - 30,000 new jobs. Both these hypothesis imply, however, more moderate growth rates than for the past decade which would range between 3.5%, according to a low hypothesis, and 5.5%, according to a high hypothesis.

The high hypothesis which means the increase of the sector's share in the country's employment structure appears an ambitious scheme to demand the Government's vigorous efforts and assistance.

4.9 The Gross Industrial Product is today (1970) of the order of B/140 millions and forms only 16% of the Gross Domestic Product.

4.10 Nevertheless the GIP has effected during the past decade a rapid growth at a rate of 11.1% which is higher than those of industrial jobs (7.1%) and GIP (8.1%).

This growth has placed Panama at the first place in the ranking of Latin American countries in terms of GIP gross rates.

4.11 Similarly, the GIP per capita proves to have grown faster than the GDP per capita and effected a total growth of 100% as compared with 40% for the GDP per capita.

4.12 The GIP's growth over the decade has meant basically the expansion of the light industries, which inspite of the decline of their share in the sector from 70% to 50% still account for half of its product.

4.13 Forecast in respect of the future expansion of the sector postulate for the year 1980 a slower growth than effected in the period 1960-70. Rates of growth are assumed to range between 8.4%, according to a low hypothesis and 10.3% according to a high hypothesis with a respective product ranging between B/313 millions and B/372 which would form a respective share of 22% and 23% in the GDP.

4.14 Levels of productivity in the sector today (1970) are considered to be medium:

The job/product ratio being.....0.60

and the value of GIP per worker.....B/2,923

The fact that both these indicators are higher than their average parallels, indicates only on the relative productivity of the sector in the Panamenian economic context. Nevertheless this does not necessarily prove a satisfactory level of productivity by international standards. Moreover, the fact that the job/product ratio has not decreased since 1960 but even somewhat increased - from 0.57 to 0.60 - and the unsteady and slower growth of the GIP per worker from 7.7% in the

first quinquennium to - 0.2% in the second adding up to a rate of 3.7% for the decade which is lower than the 4.2% rate of the GDP per employee reflect the sector's difficulties and strife in the sphere of productivity.

4.15 Sharp differences within the sector itself are revealed between the enterprises of 5 workers and over and those having less than 5 workers.
The GIP per employee being in the case of the former B/6,100 and the latter B/0,700. The small scale enterprises being, thus, markedly inefficient.

4.16 Forecast in respect of jobs . GIP imply, therefore, a serious government intervention and assistance as they mean:

(a) the reverse of present trends by effecting a faster growth in the GIP per worker than in the GDP per employee.

(b) The decrease of job/GIP ratio from 0.60 to 0.50-0.52.

(c) The increase of the GIP per worker, by 51%-63% from B/2,923 to B/4,400-B/4,780.

An initial stab at the problem is made through vocational training schemes planning to engender yearly on the labour market about 1,500 trained manpower.

4.17 This forecast would mean for the GIP per capita to grow by 69% to 100% from B/96 in 1970 to B/164-B/195 in 1980.

4.18 The average capital-output ratio in the sector is at present 1.44 (relationship between gross increment in fixed assets and increment in aggregated value). Yet, when incentives are provided the above ratio has proved to be reduced to 0.77.

4.19 Industries with significantly higher capital-output ratios than the average in both the above cases are paper products and leatherwear (besides shoes); others with ratio lower than the average are tobacco (0.59/metallic industries (0,58) assembling and repairing of machinery (0.37).

4.20 Short term loans in the sector have amounted in 1969 to B/35 millions which account for only 7% of the total loans availability. It appears that had a larger demand been formulated by the sector its share in loans have increased.

4.21 Medium and long term loans are provided to the sector by: IDA and DISA (International Agency for Development) and(Desarollo Industrial S.A.)respectively.

IDA has provided in recent years R/9.2 millions for 20 years at 2%-3% interest and DISA - R/8.5 millions.

4.22 DISA has utilised loans allocation not only for sustaining the growth of the various branches but also for promotion and stimulation of emerging branches mainly in the metallic group.

5. BALANCE OF PAYMENTS

5.1 Panama's Balance of Payments shows a current (1971) deficit of 79 million Balboas.

5.2 Since 1967 the Balance of Payments has been continuously deteriorating; the volume of deficit having almost trebled in the course of the 1967-71 period.

5.3 Nevertheless, Panama is one of the less indebted countries among the Central and Latin American countries: whilst no fewer than 8 of the neighbouring countries need to contribute 10%-20% of their revenue from exports to servicing external debts, Panama contributes only 3.5%.

5.4 The Canal Zone operations appear to offset a large part of the country's deficits resulting from international transactions.

5.5 Strategies envisaged by the INDESA study for controlling the Balance of Payments suggest two alternative courses of action:

(a) reduction of the domestic turnover: either by using resources allocated for daily activities or by using gold reserves;

(b) augment of debitory situation: by utilizing foreign deposits available in the local banks and by getting official loans.

Whilst the first strategy appears to be rather undesirable and is likely to jeopardise the expansion of the economy, the second seems to produce preferable results provided:

(a) the expansion of export will be capable of absorbing incremental commitments;

(b) the complementary income from foreign deposits will cancel out commitments;

(c) the permissible top limit of indebtment will be clearly determined.

6. CURRENCY AND CREDIT

6.1 More than half the deficit in the Balance of Payments has been covered in 1971 by the residual passive in the banking system.
The rest has been covered by public loans and private investment.

6.2 Foreign deposits have created in 1971 an availability of B/227 millions in the financing market which could be utilized for relieving the pressure generated on the economy by the Balance of Payments and the domestic demand for credits and loans.

6.3 The above represents a growth of 37% or B/61 millions in respect of the previous year 1970.

7. INVESTMENTS

7.1 The global domestic investment is today(1971) of the order of B/287 millions:

7.2 The share of the private sector, in the above, accounts for more than three quarters.

7.3 Domestic investment has markedly decelerated in respect of 1970:

It is assumed that the following factors have largely contributed to this phenomenon.

(a) High increase in expenditure on capital formation.

(b) Restriction of complementary services provided to investors by the public sector.

(c) Restrictions in the use of funds.

7.4 Future levels of Domestic Investment appear therefore to be strongly dependent on changes in government policies and strategies, in this respect, in addition to external condition of international commerce and financial markets.

7.5 The Foreign Direct Investment in Panama is almost of the same order of the Domestic Investment, with B/247 millions in 1970, the major foreign investor being U.S.A. with a share of 9[illegible]% in the total.

8. IMPORTS AND EXPORTS

8.1 More than ½ of Panama's Imports originate from the Western Hemisphere; North America and Latin & Central American countries are almost at par with a share of 40% and 36% respectivsly. Imports from Europe account for 15% only.

8.2 Exports patterns are basically different from those of Imports: affinity to North America and Europe is stronger - North America absorbing more than half - 50% - of Panama's Exports and Europe about a third - 32%, whereas affinity to Latin and Central American ecuntries is much weaker, the latter sharing no more than 8% of Panama's exports.

8.3 The total value of Imports amount today (1971) to - B/525 millions which is considerably higher than that of Exports - B/324 millions.

8.4 Imports have been growing faster than Exports: the disparity between the two has been therefore increasing.

8.5 However, Imports for domestic consumption have grown much slower; this implies an initial penetration of import substitute goods in the local market. Similarly data evidences that Panama's own manufactured goods, Exports, have grown somewhat faster than the total;this would indicate a slight initial progress in manufacturing for external markets. Yet, this obviously, has not yet introduced any significant change in Panama's low exporting capacity and, virtually, progress is slow and inconsistent.

8.6 The true dimensions of Panama's low exporting capacity is revealed when deducting the transactions of the Colon Free Zone:

The "Import:Export" relationship - 1.6:1 rises to 4.3:1 (B/307:B/70) when Colon Free Zone transactions are excluded. Trends appear to indicate an enlargement in the gap.

8.7 Imports to the Colon Free Zone constitute 41% of Panama's total Imports, while re-exports from the Colon Free Zone constitute 78%! of Panama's total exports.

These also represent a growth in respect of 1967 when the Colon Free Zone possessed a share of 37% in Panama's imports and a share of 7% in Panama's exports.

9. THE CANAL ZONE

9.1 The Canal Zone, a major node of sea communication in the Western Hemisphere constitutes by virtue of its activities, a dominant factor in Panama's economic life.

9.2 The main activities, taking place therein, are: bunkering, delivery and collection of cargo to and from the Colon Free Zone, and port services to passengers.

9.3 Cargo handled annually in recent years (1967-70) is of the order of 117 millions metric tons.

9.4 Two ports are situated on either entrance: Cristobal on the Atlantic and Balboa on the Pacific.

Cristobal, the largest deep water port in Central America and the third world's largest bunkering port handles 2/3 of the Zone's cargo.

9.5 Studies, in this respect, have concluded that no apparent economic justification exists to adapt both the above to containerization before 1985 as provision of such facilities would involve 3 milliard dollars while cargo lost during the period in question by their absence would attain no more than 16% of the total potential.

Consequently, an interim solution is sought in the form of a 'container bridge' with two associated container terminals on either side of the Canal.

This does not mean that the provision of such a facility, in a more distant future, is excluded, as this is expected to multiply, eventually, by 17 times Cristobal's cargo.

9.6 The Canal Zone employs 22,000 persons which account for 5.2% of the country's total; its contribution to the GDP attains B/70 millions, which forms a share of 9.3% in the total.

The above implies a B/3138 product per employee and a job/product ratio of 0.55 which are similar to those of the industrial sector.

9.7 The future potential of new jobs in the Canal Zone is apparently quite limited and forecasts for 1980 anticipate no more than 2,500 new jobs for the decade. Yet, product is expected to double and attain a value ranging between B/130-150 million.

This implies higher levels of productivity which are represented by lower ratios of job/product - 0.43 - and almost doubling the values of product per employee B/5300-6100.

9.8 The most outstanding contribution of the Canal Zone to Panama's economy is the surplus generated by the

country's transactions with the Zone.

This surplus which has reached B/145 million in 1970 and added up to B/844 million for the period 1967-70 has permitted Panama to stand the growing deficit in the Balance of Payments without the deflatory consequences it might entail.

9.9 The notable contribution of the Canal Zone to the Panamenian economy proves, however, to bear adverse effect on industrial development.

The money generated on the market both by the above mentioned "surplus" and by the relatively high salaries has given rise to an inflatory situation in which prices and wages are constantly increasing in disproportion with the value of production.

Panama's products have turned consequently to be too expensive to compete in overseas markets and for this reason export-oriented industries have not been so far attracted.

9.10 This aspect being of critical importance at a time when the establishment of an export-oriented industrial free-zone is envisaged, calls for the Government's urgent intervention with view to control inflation, elevate productivity and provide incentives.

10. THE COLON FREE ZONE

10.1 The Colon Free Zone, a focus of international trade in the Western Hemisphere, constitutes a factor exerting a marked impact on the Panamanian economy.

10.2 The Colon Free Zone constitutes a segregated area located at the Atlantic entrance of the Panama Canal. Goods from any nation are brought-in duty-free for: storage or repackage, processing etc. for eventual re-export to any foreign destination, save Panama.

10.3 The Colon Free Zone functions as an autonomous institution of the Republic of Panama administered by a board of directors.

It handles today (1971) cargo with a value of ....B/473 millions
out of which, exports account for: ....B/256 "
and imports ....B/217 "

Its prosperous operation is largely due to fiscal incentives provided by the Government and for 1980 the value of its Exports is expected to treble and attain B/811 millions.

10.4 About three quarters of the Zone's trade is concentrated over a limited range of products:

(1) Chemical Products (pharmaceutical and cosmetics)

(2) Manufactured goods (clothing, cameras, watches, etc.)

(3) Machinery and transport equipment (radio, TV vehicles, etc.)

(4) Manufactured products (textiles, jewellry, etc.)

(5) Drinks and Cigarettes.

10.5 Pattern of Imports is more centralised than that of Exports. Over half the Imports come from Japan, U.S.A. and U.K. About half Exports are distributed in no less than 18 of the neighbouring countries. It emerges that Japan, U.S.A. and U.K. use Colon as a base for their marketing activities in Central and Latin America.

In 1981 Latin American countries are viewed to increase their share to 85% of the Zone's total Exports.

10.6 80% of Imports arrive by sea, the rest arrive by air. After processing, 60% are trucked to Tocumen airport for delivery by air, 20% are shipped by sea and the rest forwarded by Land.

Value/weight ratio of commodities shipped by air for 1970 is on average 13, while that of commodities shipped by sea is 4.

10.7 The Colon Free Zone's present, and anticipated contribution to Panama's employment is negligible:

With 3,500 jobs today (1970) it constitutes but 1% of total jobs; even in 1980 when the above number is expected to treble and attain 10,500, the contribution of the Zone to Panama's job market will not exceed an insignificant share of 1.5%.

10.8 The contribution of the Colon Free Zone to the GDP is also fairly small.

Its present (1970) contribution, accounting for B/31 millions represents a share not higher than 4%.

Its anticipated contribution for 1980, although expected to double in finite terms and attain B/65-75 millions, will produce a share not bigger than 4.7%.

10.9 Levels of productivity in the Colon Free Zone are, however, the highest in the country:

Job/product ratio being as low as 0.26 and product per worker as high as B/8857 (compared with B/1754 the country's average, B/2900 in the industrial sector B/3138 in the Canal Zone), while the mean salary - B/248 - is alike the mean in the country outside the Metropolitan Area and lower than that of the Metropolitan Area - B/304.

10.10 The remarkable contribution of Colon Free Zone is, however, to the Balance of Payments.

The present (1970) surplus to the Balance of Payments is estimated to be B/45 millions and its possible contribution in 1981 may attain B/100-B/120 millions.

10.11 In addition to the above outstanding contribution, indirect benefits stemming from the Zone's activities are generated namely:

(a) Setting higher standards of productivity for the economy as a whole.

(b) Stimulation of telecommunication banking and insurance services, of tourism and building industry.

(c) Establishment of an air cargo and ocean cargo market accounting for B/8.4 millions and B/13.0 millions respectively.

10.12 The Colon Free Zone's indirect effects seem to be even more substantial in the Metropolitan Area: Panama City has become the main supplier of high quality services, housing and environment demanded by the labour force working in the Zone, while Colon has stayed aside loosing population and made incapable by her poor plight to take part in the growth occurring at its doorstep.

It emergas that by stimulating the growth of Panama City, the Colon Free Zone has indirectly promoted polarization, commuting, population drift from Colon and regional unbalance within the Metropolitan Area - as a whole.

10.13 The future territorial growth of Colon lies according to the feasibility study undertaken by Livesey, Henderson & Partners, London, either with the possibility of acquiring land at present under the jurisdiction of U.S.A. - the Old Franca Field - or with the reclamation of the Folk river; industrial development is not recommended and its further specialization as a Trade Free Zone is advocated.

An Industrial Free Zone situated at the Tocumen Airport for export-oriented manufacturers is considered a viable proposition.

11. THE TOCUMEN AIRPORT

11.1 Tocumen Airport is located on a crossroad of international significance linking the Atlantic to the Pacific and North America to South America.

11.2 Today (1969) the Tocumen Airport handles a volume of 9000,000 passengers and 34 million kilos of cargo.

11.3 During the past decade Tocumen Airport has experienced a dynamic growth, having trebled both its volume of passengers and of cargo; today, it is a prominent centre for cargo processing ranking the third among Latin American countries for cargo weight and handling 10% of their total cargo. In addition, it handles 40% of Panama's total cargo.

11.4 The growing incompatability of the airport facilities with the expanding activities has induced the Panamenian Goverement to consider the airport's expansion and improvement to achieve international standards.

The Parsons Corporation from Los Angeles have been commissioned with the preparation of a feasibility study and a master plan.

11.5 The target year of the study is 1990 and its findings are as follows:

(a) In the absence of improved facilities and expansion, the present rate of growth of activities - 10% - is likely to decelerate.

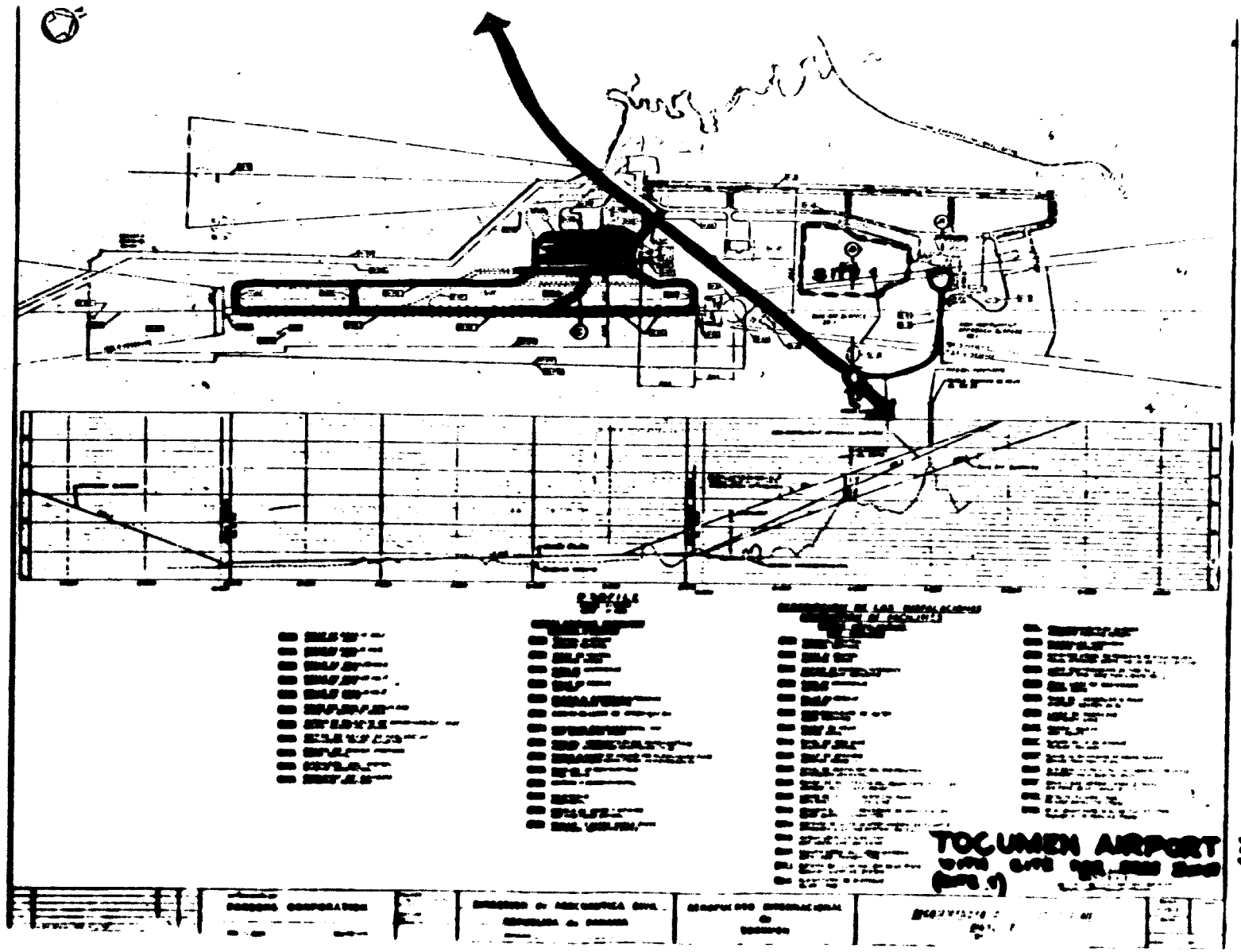
Nevertheless, the volume of passengers will still grow 4 times and attain .....3.7 millions and volume of cargo - 3/4 times to attain...96 millions kilos.

(b) If the airport is expanded and improved, rates of growth will surpass the present pace and the eventual total growth will be rather spectacular:

7 times for passengers to attain...6.3 millions and
14 times for cargo to attain .....380 million kilos

(c) 70% of the volume of international cargo at Tocumen Airport is generated by the Colon Free Zone, and the Canal Zone.

Transfers account for only 17% and the Republic of Panama for only 13%.


TOCUMEN AIRPORT

(d) Assuming 40% of passengers expected in 1985 under an improved airport, will travel in wide bodied jet, 55% in other jets and 5% in non-jets, all categories operating at an occupancy rate of 57%, the number of scheduled aircraft movements (1) in 1985 is likely to attain 62,000 which means 2.7 times more than at present.

(e) Assuming 80% of total cargo expected in 1985 under an improved airport will be shipped in all-cargo planes, these will be distributed in wide bodied and other planes according to a respective 40:60 proportion, all planes operating at an occupancy rate of 68%, the number of scheduled aircraft movements will double and attain 4,000.

(f) Total scheduled aircraft movements will add up, thus, to 66,000.

(g) The above number is likely to increase by 25% and attain 82,000 when adding non-scheduled and military flights thereon.

(h) In sum, total aircraft movements will effect by 1985 a growth of 2.6 in respect of today, passengers' movements accounting for 75% of total.

11.6 The physical Master Plan suggests:

(a) To expand the airport across the Inter-American highway on its southern side in the absence of sufficient appropriate land for expansion on the existing site.

Severance is due to be overcome by sinking of the highway by 6 metres below present level along a stretch of 600 metres and bridging it over by a taxiway bridge.

(b) The airport is to cover a total of 1000 ha.; 645 ha. on the existing site and 355 ha. on the new one.

(c) The new site is to include a new airport of international standard with a runway of 3300 metres, a new passenger terminal and other modern building and services.

(d) The existing site is to be modernised by extension of the runway and provision of modern facilities and will specialise in specific functions, other than passengers movements. Consequently, the existing passenger terminal will be adapted to a new function. This is to remain, however, and open issue until suggestions included in the foregoing report on the joint location of the cargo terminal and the Industrial Free Zone - the IFZITA - are cleared by the Government of Panama and Unido.

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(1) Aircraft movement - one arrival and one departure at an airport.

11.7 In sum, Tocumen airport forms a third node of booming activity in the Metropolitan Area being in close interdependence with the other two - the Colon Free Zone and the Canal Zone.

The major importance of the two latter in supporting Panama's economy has already been discussed.

The contribution of the airport in assisting and stimulating them should be regarded, therefore, as its indirect participation in the enhancement of the National economy.

With the improvement and expansion of the airport and the location of an industrial free zone within its confines, Tocumen is likely to assume a dominant role in the country's economic growth.

The Colon Free Zone, the Canal Zone, Tocumen Airport and the IFZITA will form four interrelated nodes of booming activity which will jointly constitute a major and diversified growth pole in the Metropolitan Area capable of exerting multiplyer effect on the country as a whole.

CHAPTER FOUR: THE IFZITA PROJECT

1. GENERAL

1.1 The project objectives and possible contributions

The Industrial Free Zone at the Tocumen Airport - the IFZITA - is planned as an exclusively export-oriented industrial Free Zone, with view to achieve the following objectives:

(a) Provide Panama with a substantial exporting capacity;

(b) promote the advent of industrialization;

(c) provide employment to labour force;

(d) improve the skills and productivity of the country's human resources;

(e) improve the quality and reduce the total cost of the manufactured commodities with view to maximize their prospect of penetration in world markets.

Should the above goals be met the project is likely to generate three direct contributions of major importance:

(a) net gains to Panama's economy which would eventually increase the country's wealth and assist, thereby, in offsetting the deficit in the Balance of Payments and in absorbing the growing commitments that would be required in the pursuit of a continuous enhanced development of the country;

(b) a substantial number of jobs, hence alleviating, the unemployment problem;

(c) higher standards for both production and productivity in the industrial sector as a whole.

In addition, the multiplyer effects of the project will, obviously, stimulate other facets of Panamenian economy.

1.2 Courses of Action to be undertaken by the Government

The IFZITA project achievements would, however, strongly depend on the Government's initiative in taking a wide range of essential courses of action.

(a) identify and capitalise on all attributes - economic and institutional - which could generate the development of export-oriented manufactures;

(b) adopt an effective policy for the attraction of foreign-investment in export-oriented manufacturing especially for those who will set up joint-ventures with local investment;

(c) design fiscal incentives conceding major benefits to export-oriented manufacturers;

(d) draw on all possible financings sources with view to increase medium and long-range financing facilities and credit;

(e) provide auxiliary services such as: recruitment and training of industrial workers;

(f) intensify vocational and training programmes;

(g) establish criteria defining the tolerable correlation between salaries and productivity and devise means for monitoring it, (by means of 'norms', etc.);

(h) set up an advertising programme abroad aimed at the attraction c industrial investment;

(i) set up a domestic advertising programme aimed at establishing a co-operative climate between all parties involved in industrial production - the Government, the workers and the industrialists, and also at arousing public awareness of the large benefits likely to stem from the advent of industrialization.

1.3 Topics explored by the present feasibility study

The present feasibility study has explored the major issues of the establishment of an industrial free zone at the Tocumen Airport and has produced expertise advise on methods and devices which could possibly optimize the operation and the ultimate achievements of the Zone in question; as follows:

(a) a proposal for types of manufacturers whose products would be typified as:-

having the best possible penetration prospects in markets of developed countries;

making best possible use of local production factors;

taking maximal advantage of the airport transport facilities;

(b) a proposal for a comprehensive incentive system including a wide range of fiscal physical and organizational incentives that should be provided to foreign-based industrialists by the Government including a criteria set-up to assist decision-makers in choice and preference between the various propositions;

(c) a proposal for a management structure and legislative framework for the promotion, running and operation of the Zone;

(d) advice on the methods to be used by the Government in:

- training of manpower;
- establishing and monitoring standards of productivity;
- creating a co-operative climate between parties involved in manufacturing for export;

(e) a proposal for a physical plan advising on:

- the location of the Zone within the Tocumen Airport complex;
- the integration of the Zone within the Airport functional system;
- the internal structure of the Zone in terms of road network land uses, infra-structure and utilities;
- cost estimates of development works, basic infrastructure, and compensations;

(f) an assessment of the problems, and opportunities of the Industrial Free Zone within the Panamenian Socio-economic Context.

2. TYPES OF MANUFACTURES FOR THE IFZITA

2.1 Methodology

2.1.1 Approach

In seeking to identify the types of manufactures which could suit best the IFZITA one should accept as a point of departure that they have to be:

(a) labour-intensive;

(b) featured by relatively low weight with regard to their value;

(c) capable of generating substantial demand in markets of Developed Countries.

The first premise concedes that Panama's exports can achieve comparative advantage in labour-intensive manufactures inspite of the relatively high scale of salaries, compared with that of Less Developed Countries (like Taiwan and Hong Kong for instance), since Panama's salaries are still much lower than those practiced in the Developed Countries which are to import Panama's products. Furthermore, the Panamanian scene, by possessing a considerable reserve of unemployed manpower, seems to be a most appropriate recipient for labour-intensive manufactures.

The second premise suggests that best advantage can be taken from the IFZITA's location within the Tocumen Airport by concentrating on the production of commodities which would maximize transportation savings offered by air freight; the intention being to effect the largest possible reduction in the final price of the exported commodity and thereby improve Panama's competitive position in the world's markets.

The third premise implies on a general approach that, Panama's manufactures should be oriented to markets of Developed Countries since their concentrated buying power which is anticipated to further intensify overtime is considered capable of securing Panama's exports with a relatively rapid growth. Exports to other Less Developed Countries are not regarded as desirable, in view of the weak buying power of those countries and their import-substitute policies.
More specifically, this premise indicates that Panama's manufactures should concentrate on the production of commodities which, as products from Less Developed Countries, have generated so far considerable and growing demand in markets of Developed Countries.

It follows from the above that the ultimate prospects of Panama's exports in general and the IFZITA in particular, will rest with the specific types of manufactures selected from the wide range of the labour-intensive manufactures in terms of their ability to take the best advantage of opportunities incorporated in the local context to overcome its problems, to achieve a considerable market penetration in order to result in a noticeable growth.

This approach has lead to a rigorous exploration of the numerous options included in the long list of labour-intensive manufactures. The complexity of the problem has necessitated two "rounds" in the selection process:

- a preliminary one, proceeding with a first screening of manufactures at an aggregate level of Main Groups (2 digits)
- an advanced one at a disaggregated level of individual types of industries (4-5 digits) by which the ultimate choice has been established.

A criteria set-up was purposely devised to help in the above processes of screening and judgement. This criteria have provided a yardstic for measuring the comparative advantages of the various candidates and for evaluating their composite attributes.

2.1.2 Criteria

The criteria which have been developed for assessing the "appropriateness" of the various manufactures both to the IFZITA, and to the Panamenian economy, have been related to the following determinants:

(a) Value Added per Employee

(b) Value/weight ratio

(c) Demand in Developed Countries' markets from Less Developed Countries' products.

(d) Growth of demand in Developed Countries' markets for Less Developed Countries' products.

The parameters assigned to criteria (a), (c) and (d) have been elaborated on basis of the findings of the study:

Lary H.B: "Imports of Manufactures from Less Developed Countries" National Bureau of economic research, New York, 1968.

The parameters assigned to criteria (b) - on the findings of the study:

Greenewege A.D. & Hartmeyer R: "Air-freight key to greater profit".
Aerad Printers and Publishers, United Kingdom, 1964.

(a) The Value Added per Employee

The VAE is worked out by dividing the Value Added by Manufactures (Value of Gross output minus value of raw materials) by the number of employees involved, i.e.:

$$VAE = \frac{VAM}{\text{No. of employees}}$$

The Value Added per Employee is assumed to reflect the aggregate flows of services generated into a manufacturing process in terms of both human and physical capital.

In the light of this fact, the VAE has been established in Lary's Study as a valid tool for measuring factor-intensity in Manufacturing assuming that the higher the VAE, the more capital-intensive the manufacture, and the lower the VAE the more labour-intensive the manufacture.

This concept has been further refined by breaking down the VAE into the wage-and-salary part and the non-wage part and applying it to 20 major Industry Groups in U.S. manufacturing. The empiric findings have indicated on substantial differences between manufactures in terms of their varying degrees of albour or capital intensity.

The following table shows the VAE, of each of the studied groups, as a percentage of the average VAE in all U.S.A. manufactures established for the purpose of this analysis as 100%.

CHART I

Wage and Nonwage Value Added per Employee in U.S. Manufacturing by Major Industry Groups, 196-

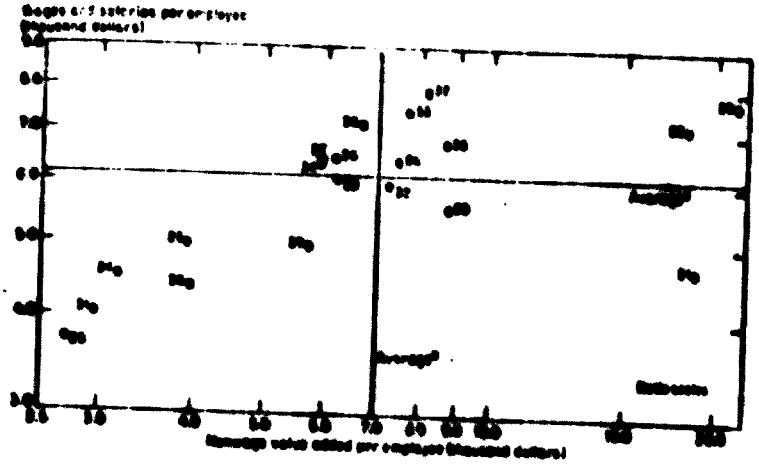

TABLE 1. VALUE ADDED PER EMPLOYEE IN U.S.A. LABOUR-INTENSIVE MANUFACTURES BY SUB-GROUPS (2 DIGIT LEVEL)

SIC Code			Sub-Group	Value added per Employee (percentage of U.S. average)		
Main Group	Sub-Group			Total	Wages and Salaries	Non-wage
			U.S. manufacturing, total	100	100	100
3	c	20	Food & kindred products	109	91	124
3	c	21	Tobacco manufactures	179	77	269
1	a b c	22	Textile mill products	64	72	57
1	p	23	Apparel & related products	49	61	39
3	c	24	Lumber & wood products	49	61	39
2	c	25	Furniture & fixtures	68	81	56
-	-	26	Paper & Allied products	105	104	107
2	d	27	Printing and publishing	94	104	85
-	-	28	Chemicals and allied products	193	117	260
-	-	29	Petroleum & coal products	220	126	303
2	a	30	Rubber and plastics "	93	99	85
2	a	31	Leather and leather "	53	66	42
4	d	32	Stone, clay & glass "	104	97	109
-	-	33	Primary metal industries	115	121	110
2	i	34	Fabricated metal products	93	103	84
2	k	35	Machinery except electrical	105	116	95
2	j	36	Electrical machinery	96	105	88
2	k	37	Transportation equipment	153	131	171
2	h	38	Optical goods, watches, cameras and instruments	93*		
2	f	39	Miscellaneous manufacturing	81	81	82

* In Table 2. M.B.Lary: Sub-group 38 appears under a different nomenclature and different VAE (117).

Following the above findings this mission could attempt a first rudimentary ranking and categorization of manufactures (at an aggregate 2 digit level), as presented in table and chart below.

TABLE 2: RANKING AND CATEGORIZATION OF SUB-GROUPS IN U.S. MANUFACTURING BY VALUE ADDED EMPLOYEE

Main Group	SIC Code	Sub-Group	VAE	Ranking	Categorisation
1	f/23	Apparel & related products	49	1	
4	c/24	Lumber & wood products	49		
2	a/31	Leather & leather products	53	2	Labour-Intensive
1	d/22	Textile mills products	64	3	Par-excellence
2	c/25	Furniture & fixtures	68	4	
2	g/39	Misc. Manufacturing	80	5	
2	a/30	Rubber & plastic products	93	6	
2	i/34	Fabricated metal products	93		
2	h/38	Optical goods, cameras, watches & instruments	93		
2	d/27	Printing & publishing	94	7	Marginal Labour-Intensive
2	j/36	Electrical Machinery	96	8	
4	b/32	Stone clay & glass products	101	9	
-	-/26	Paper & allied products	105	10	
2	k/35	Machinery except electrical	105		
1	a/20	Food and kindred products	109	11	
-	-/33	Primary metal industries	115	12	
-	-/37	Transportation equipment	153	13	
3	c/21	Tobacco manufactures	179	14	Capital-Incentiv
-	-/28	Chemical & allied products	193	15	
-	-/29	Petroleum & coal products	220	16	

In line with the above, this mission has established the following VAE Parameters to serve both for the screening and for the ranking of manufactures, for the IPZITA in terms of labour-intensity as follows:

(a) parameters ranging between ... . 49 to 89
to determine
Labour-Intensive Manufactures 'par excellence';

(b) parameters ranging between ... . 90 to 109
to determine
Marginal Labour-Intensive Manufactures;

(c) parameters ranging between ... . 110 to 220 and over
to determine
Capital-Intensive Manufactures

However, some remarks need to be added: the Main Groups falling in the "Labour-Intensive par excellence" and "Capital Intensive par excellence" categories are relatively homogeneous and very few of their component industries fall outside the boundaries indicated; whereas, those falling within the marginal category being closer to the U.S. average of all U.S. manufacturing - both for wage and non-wage VAE - are more diverse in their composition of these factors and therefore, some would fall within the Capital-Intensive category and others within the Labour-Intensive Judgement between those manufactures remain, therefore, to be established on a second 'round' at a more disaggregated level with the aid of the same parameters established above.

(b) The Value/Weight ratio

The value/weight ratio is worked out by dividing the Declared Value for Insurance of a commodity by its Gross Weight; i.e.

$$\text{Value/Weight ratio} = \frac{\text{Declared Value for Insurance (in \$)}}{\text{Gross weight (in Kg.)}}$$

It is a rather established view that transport by air can be profitable only in the case of commodities featured by low-weight/high value relationships.

However, the study of A.D.Groenwege & R.Heitmeyer allows to take a fresh look at air-freight in terms of the numerous advantages it can offer to a wider range of commodities outside the Low-weight/high-value category.

The said study has developed the concept of the 'Total Costs' including: The 'Direct Costs'(1) + the Indirect Costs(2) + the Intangibles(3) for comparing air and surface freight.

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(1) Direct Costs:- packing or crating, including labour;
- pick-up and delivery charges;
- transfer charges;
- freight charges;
- transit warehousing and wharfage;
- insurance;
- charges for documentation, and
- interest on capital.

(2) Indirect Costs - warehousing and inventory;
- personnel and administration;
- obsolescence, theft, deterioration.

(3) Intangibles - time.

It has proceeded with testing this concept on a range of 9 selected commodities whose value/weight ratios differed widely - from 11.1 $/lbs to 1.25 $/lbs.

Savings reflected in the "Direct Costs" of air-freight are presented in the table hereunder.

TABLE 3. VALUE/WEIGHT RATIOS OF 9 SELECTED COMMODITIES AND SAVING EFFECTED IN AIR FREIGHT "DIRECT COSTS" AND DELIVERY TIME

Commodities	Route	Value ($) / Weight (lbs) ratio	Saving in Air freight direct costs ($)	Time (in days) Air	Surface	Saving
Washing machines	Milan-New York	1.25	8.0	2	24	22
Electronic computers	New York-Paris	7.50	± 19.5	2	20	18
Photographic & projection equipment and parts	Stuttgart-New York	7.50	21.0	2	20	18
Printing machinery	London-Amsterdam	1.50	29.0	1	6	5
Radio & TV sets	Tokyo-San Francisco	11.10	(-) 31.0	2	24	22
Electrical appliances	Amsterdam- New York	2.67	30.5	2	20	18
Clothing	Frankfurt-Kuwait	5.45	(-) 20.0	2	30	28
Typewriters (electric)	Montreal-Frankfurt	5.65	18.0	2	20	18
Pharmaceutics	Zurich-Teheran	5.75	14.0	2	40	38

Source: Elaborated from tables 1 to 10 "Air Versus Surface Direct Cost Comparisons" in: Air-freight - Key to Greater Profit/A.H. Greenage & R. Whitmarsh.

The findings of the study in question have lead this mission to the following observations, in respect of the value/weight issue:

(a) Although a straight comparison between air and surface "Freight Charges" reveals in all 9 studied cases savings in favour of surface freight, the "Direct Costs" comparisons produces a contrary result indicating on substantial savings, ranging between 8%-50%, effected by air-freight.

(b) However, losses resulting from air-freight "Direct Costs", are likely to occur in special cases (as exemplified by 2 of the 9 commodities) when the route by surface freight happens to be exceptionally smooth (no transhipment handling or other normal expenditure being involved).

(c) Commodities outside the low-weight/high value bracket and possessing ratios as low as 1.25 $/lbs, 1.50 $/lbs, 2.50 $/lbs are still capable of achieving substantial savings in the "Direct Costs" of air-freight.

It is worthwhile mentioning that the latter finding turns to be most reassuring for the prospects of the IFZ/TA. Moreover, the additional and even larger advantages provided by the "Indirect" and "Intangible" savings appear to further widen the scope of benefits for a range of commodities cutting across almost the whole spectrum of value/weight ratios.

The Indirect Savings in air-freight deriving from the curtailing of warehousing, handling and insurance costs, the reduction of interest on capital, the reduction of expenditure of administration and personnel and the reduction of obsolescence and theft probabilities may turn air freight profitable even to commodities which effect losses in the air-freight "Direct Costs".

The intangible saving in air-freight - Time - is perhaps the most important of indirect benefits and although difficult to qualify the fact that "time is money" is a sheer reality. The critical role which speedy delivery, flexibility and adaptability to changing markets and greater consumer satisfaction may play in the exporting process of specific sensitive commodities may turn air-freight profitable for them irrespective of their value/weight ratios.

The anticipated rationalization of air-freight services in the future, through the design of wide-bodied all-cargo aircraft and higher occupancy rates which might possibly lead to reduction in fares, is likely to further improve efficiency in distribution, develop new markets, increase sales, and turn air-freight into a "key to greater profit" for an ever increasing range of commodities.

However, even if the above indicates pretty clear that the value/weight ratio represents only one component among others to determine the viability of air freight and hence its limitation as a criterion, this mission has, nevertheless, considered useful to establish an hierarch of value/weight ratios to assist in discerning between the various levels of profitability that different commodities may dervie from air-freight and to use them as a guidance for ranking the IPZITA manufactures.

The ranking of the 9 commodities studied by A.D.G. & R.H. has helped, virtually, in establishing the following sedimentary categories:

TABLE 4. RANKING AND CATEGORIZATION OF 9 SELECTED COMMODITIES BY VALUE/WEIGHT RATIOS

Commodity	value/weight ratio (in $ lbs)	ranking	categorisation
Radio & TV sets	11.10	1	I
Photographic & projection equipment and parts	7.50	2	Low Weight
Electronic computers	7.50		
Pharmaceutics	5.75	3	Medium Value - Low Weight
Typewriters	5.65	4	
Clothing	5.45	5	
Electrical appliances	2.67	6	Medium Value - Medium Weight
Printing machines and parts	1.50	7	
Washing machines	1.25	8	

Source: The same as for above Table 3.

Drawing on the above experience the following value/weight ratios and categories have been established by this mission as criteria for ranking the IFZIFA manufactures:

(a) ratios between ....11.0 $/lbs to 7.5 $/lbs. to determine commodities with Low-Weight/High Value

(b) ratios between .... 7.5 $/lbs to 5.0 $/lbs. to determine commodities with Medium Weight/High Value

(c) ratios between ... 5.0 $/lbs to 1.5 $/lbs. to determine commodities with Medium Weight/Medium Value.

For the sake of comparison the average value/weight ratio of air-freighted commodities in the Colon Free Zone has been 6.2 $/lbs for 1970. This average implies that some types are above this average and others below. The above criteria appears to be in line with the Colon Free Zone practice. Before closing this paragraph, an additional clarification is due. The discussion above have related as a rule to value/weight ratios and not to value/volume ratios. This is due to the fact that rating on volume is a relatively rare occurrence.

The density of 7 lbs per cubic feet has been established by airlines as the top level of low-density for rating on volume. From this density and above commodities are rated on weight.

All the 9 commodities referred to in this paragraph prove to surpass by far the 7 lbs/cu.ft. density, as follows:

1. Washing machines	....	12.0 lbs/cu.ft.
2. Electronic computers	....	13.6 lbs/cu.ft.
3. Photographic and projection equipment and parts	....	15.0 lbs/cu.ft.
4. Printing machinery	....	32.0 lbs/cu.ft.
5. Radio and TV sets	....	8.0 lbs/cu.ft.
6. Electrical appliances	....	11.0 lbs/cu.ft.
7. Clothing	....	9.0 lbs/cu.ft.
8. Typewriters (electrical)	.. ....	11.0 lbs/cu.ft.
9. Pharmaceutics	....	11.4 lbs/cu.ft.

(c) Demand

The total imports of labour-intensive manufactured products by Developed Countries has attained in 1965 $ 35.8 billions, out of which only $ 2.5 billions, representing a share of no more than 7.2%, have originated from Less Developed Countries. (1)

This situation appears to have derived from:

- the slow development of labour-intensive manufactures in the Less Developed Countries;
- the insufficient stimulation offered by International loans to the development of export-oriented labour-intensive manufactures;
- the lack of import policies in Developed Countries to encourage imports of labour-intensive manufactured commodities from Less Developed Countries.

The country with the highest share in the imports of labour-intensive manufactured products from Less Developed Countries in 1965 has been the United States with $ 1,010 billions forming 42% of their total Imports.

The United States, the United Kingdom and West Germany together have provided the main markets for the Less Developed Countries' manufactured products by absorbing about three quarters of their total exports in manufactured goods. Moreover, the United States and West Germany markets have exhibited also rapid growth in their demand for such products - the growth rates for the year 1964-65 being 21% and 24% respectively.

As opposed to that the United Kingdom's demand has decelerated due to general restriction imposed on imports on that year. This, however, does not necessarily imply on a continuous trend.

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(1) All Western Hemisphere besides U.S.A . & Canada.
All Africa except the Union of South Africa
The Middle East except Turkey
The rest of Asia and Far East except Japan
Mainland China and North Korea
Oceania except Australia and New Zealand

In addition, a range of other Developed Countries seem to be developing substantial demand for Less Developed Countries Manufactured products namely:Sweden, Austria, Japan, Australia and New Zealand with growth rates of 16%-24%.

TABLE 5. IMPORTS OF LABOUR INTENSIVE MANUFACTURES BY INDIVIDUAL DEVELOPED COUNTRIES FROM LESS DEVELOPED COUNTRIES 1965 (BY IMPORTING COUNTRIES)

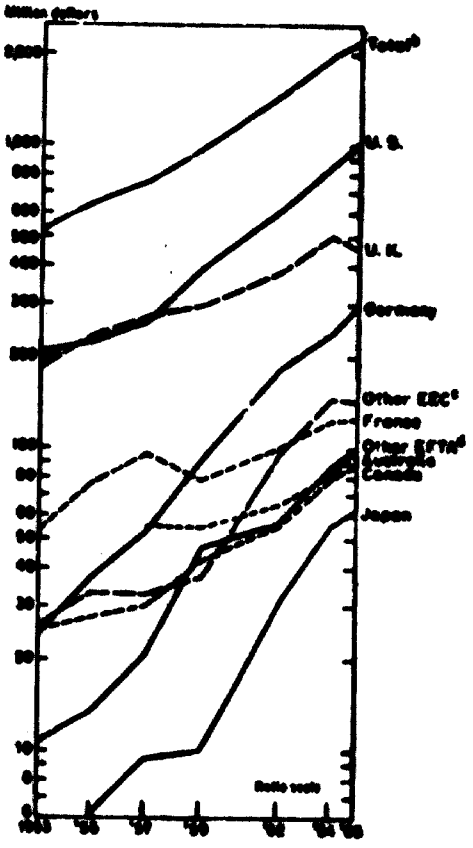
Importing Countries	Imports in 1965 from L.D.C. ($ millions - f.o.b.)	Percentage Distribution among Importing Countries	Percentage increase over 1964 Imports from LDC
Developed Countries Total	2,438	100.0	11.3
United States	1,010	41.4	21.5
EFTA, Total, excl. Portugal	574	23.6	- 5.8
United Kingdom	428	17.6	-10.7
Sweden	44	1.8	23.9
Norway	13	.5	2.1
Denmark	32	1.3	9.4
Switzerland	43	1.8	7.5
Austria	14	.6	16.5
EEC Total	580	23.8	13.0
West Germany	309	12.7	24.2
France	127	5.2	4.8
Italy	47	1.9	2.0
Netherlands	65	2.7	1.8
Belgium-Luxemburg	32	1.3	- 4.1
Japan	66	2.7	19.2
Canada	87	3.6	9.9
Australia	94	3.8	18.4
New Zealand	27	1.1	19.9

Source: H.B. Lary, Table 12.

On a broader front, taking the Developed Countries as a whole for a larger time span of 13 year (1953-65), it is evidenced that imports of labour-intensive products from Less Developed Countries have grown at a considerable rapid pace of 13% a year; the volume for 1965 having increase by 4.3 times in relation to 1953. Such a growth is assumed to be maintained in the future provided the structure of wages, productivity and other subsidiary factors enable less developed countries to hold on their comparative advantage.

Imports of Labor-Intensive Manufactures by Developed from Less Developed Countries, 1953-65

CHART 2



Source: H.B.Lary, (chart 14)

The differences in demand which the various groups(1) of the Labour-Intensive manufactures from Less Developed Countries have generated in markets of Developed Countries has been rather substantial.

Group 1 - Textile, Clothing and Accessories have generated the major demand in markets of United States, United Kingdom and other EFTA countries.

Group 2 - Other Light Manufactures except Food have generated the major demand in United States and United Kingdom.

Group 3 - Labour-Intensive Food Manufactures have generated the major demand in West Germany, other EEC countries and Japan.

Group 4 - Labour-Intensive Industrial Material have generated the major demand in United States, Canada, Australia and New Zealand.

In conclusion, Groups 1, 2 and 4 - "Textile, Clothing, etc." - "Other Light Manufactures", etc. and "Labour-Intensive Industrial Material" appear to be the product of Less Developed Countries being the most in demand in the three major markets - the United States, the United Kingdom and West Germany; these countries having attained a share of 72%-75%, in the Developed Countries imports of manufactures from Less Developed Countries.

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(1) Labour intensive manufactures fall according to U.S. Standard Industrial Classification: SIC - into:

4 Main Groups coded by one digit
24 Sub-Groups coded by a letter or two digits
170 Industries coded by 3, 4, 5 digits.

In parallel there are internation classifications:

The Standard International Trade Classification - SITC and the International Standard Industrial Classification - ISIC, both coded by 3, 4 and 5 digits.

Codes in the various classification differ. Attempts have been made by U.N. to relate them to each other.

The biggest importer of all is the United States having attained among importing countries a share of 36% for Textile, Clothing, etc. (Group 1)
54% for Other Light Manufactures, etc. (Group 2) and of
48.9% for Labour Intensive Industrial Material (Group 3)

TABLE 6.

Imports of Labor-Intensive Manufactures by Developed from Less Developed Countries in 1965: Percentage Distribution Among Importing Countries by Four Main Groups of Products

Importing Country	All Items	Group 1 Textiles, Clothing, and Accessories	Group 2 Other Light Manufactures, Except Food	Group 3 Labor-Intensive Food Manufactures	Group 4 Labor-Intensive Industrial Materials
United States	41.4	36.4	54.5	24.5	48.9
United Kingdom	17.6	22.9	14.5	11.8	17.3
Other EFTA	6.0	6.7	5.9	5.9	3.6
West Germany	12.7	16.0	8.0	22.5	6.4
Other EEC	11.1	5.1	9.1	26.0	9.4
Canada, Australia, and New Zealand	8.5	9.5	6.1	5.1	13.7
Japan	2.7	.6	3.7	7.6	1.6

Source: H.B. Lary, (Table 13)

In addition, the United States has been ahead of all other Developed Countries in the growth of its demand for labour-intensive manufactured commodities from Less Developed Countries.

The expansion of demand has been particularly associated with Group 1 - Textile Clothing, etc.
and Group 2 - Other Light Manufactures for which the United States have revealed a most outstanding growth.

The demand for Textiles, Clothing, etc. (Group 1) having grown by 34% in the U.S. as compared with 17.8% in other Developed Countries, and for Other Light Manufactures (Group 2) by 44% in the U.S. as compared with 25.6% in other Developed Countries.

TABLE 7

Imports of Labor-Intensive Manufactures by Developed from Less Developed Countries: Distribution Among Four Main Groups of Products in 1965 and Increase from 1964
(per cent)

Importing Country	All Items	Group 1 Textiles, Clothing, and Accessories	Group 2 Other Light Manufactures, Except Food	Group 3 Labor-Intensive Food Manufactures	Group 4 Labor-Intensive Industrial Materials
		Imports in 1965 ($ million, f.o.b.)			
Developed countries, total	2,438	787	498	459	696
United Kingdom	429	180	78	54	121
Total, excl. U.K.	2,009	607	421	404	577
United States	1,010	286	269	113	342
Other developed countries	1,000	320	152	292	236
		Increase from 1964 (per cent)			
Developed countries, total	11.3	10.4	26.8	4.8	7.7
United Kingdom	-10.7	-20.8	-11.1	6.0	1.6
Total, excl. U.K.	17.5	24.9	36.9	4.4	9.0
United States	21.5	34.0	44.3	-3.0	8.6
Other developed countries	13.7	17.8	25.6	7.6	9.6

Source: H.B.Lary, (Table 11)

In pursuit of identifying the types of manufactures from Less Developed Countries which have met substantial demand in markets of Developed Countries, a more refined analysis of the Developed Countries imports structure was undertaken.

This analysis has been conducted at the level of Sub-Groups (2 digits) separately for the United States and Other Developed Countries, the reason being the dominance of the United States in imports from Less Developed Countries and the rapid growth evidenced by this market.

The share of each of the 24 Sub-Groups in the total imports of Developed from Less Developed Countries has been used as a scale to measure the relative demand engendered by each.

TABLE 8. IMPORTS OF LABOUR INTENSIVE MANUFACTURES BY DEVELOPED FROM LESS DEVELOPED COUNTRIES (BY MAIN GROUPS AND SUB-GROUPS

Main Groups	Sub-Groups	SIC Code	Labour-Intensive Manufactures	From Less Developed Countries					
				To U.S.		To U.S.S.R.		Total	
				In $ Millions	in %	In $ Millions	in %	In $ Millions	in %
			Labour-Intensive Manufactures - Total	1,009.8	100.0	1,57 .8	100.0	2,581.6	100.0
1			TEXTILES, CLOTHING AND ACCESSORIES	286.3	28.3	534.0	34.1	820.3	31.8
	a	/ 22	Yarn and Thread	5.9	.6	3 .1	2.0	37.0	1.4
	b	/ 22	Cotton Fabric Woven	61.5	6.1	12 .2	7.8	183.7	7.1
	c	/ 22	Other Woven Fabrics Excl.Jute Products	9.2	.9	1 .4	.8	21.6	.8
	d	/ 22	Textile Small Wares and Specialities	12.9	1.3	3 .8	2.3	48.7	1.9
	e	/ 22	Carpets and Other Floor Covering	15.7	1.5	12 .7	7.7	136.4	5.3
	f	/ 23	Clothing and Accessories Excl.Goods of Leather and Rubber	181.1	17.9	21 .7	13.8	392.8	15.2
2			OTHER LIGHT MANUFACTURES EXC. FOOD	269.4	26.7	25 .9	15.9	520.3	20.1
	a	/30-31	Rubber & plastic products n.e.c. & Footwear & Other products of leather, rubber & plastic	54.2	5.4	43.5	2.8	97.7	3.8
	b	/ 32	Glassware,china, pottery & misc. non-metallic mineral products	3.1	.3	.0	.1	5.1	.2
	c	/ 25	Furniture	6.8	.7	4.1	.3	10.9	.4
	d	/ 27	Books & other printed matter	4.2	.4	2.7	.2	6.9	.3
	e	/ 39	Games, toys, sporting goods & musical instruments	25.8	2.5	40.9	2.6	66.7	2.5
	f	/ 39	Jewellry and Silverware	17.6	1.7	42.0	2.7	59.8	2.3
	g	/ 39	Misc.Manufactures incl. costume jewellry, stationery, & notions	90.3	8.9	60.7	3.8	151.0	5.8
	h	/ 38	Optical goods, cameras, watches & instruments	3.0	.3	5.8	.3	8.8	.3
	i	/ 34	Cutlery, tools, hardware & other metal prods.	14.1	1.4	12.1	.7	26.2	1.0
	j	/ 33	Electrical apparatus and appliances	46.3	4.6	27.0	1.7	73.3	2.8
	k	/ 35	Non-electrical machinery and equipment	3.9	.4	9.9	0.6	13.8	.5
3			LABOUR-INTENSIVE FOOD MANUFACTURES & CIGARS	112.4	11.2	38 .0	24.1	492.4	19.1
	a	/ 20	Fish and fish products	44.6	4.4	193.4	12.3	238.0	9.2
	b	/ 20	Fruits and vegetables	65.3	6.5	175.0	11.1	240.3	9.3
	c	/ 20-21	Misc. food products and cigars	2.5	.2	18.5	1.7	14.0	.5
4			LABOUR-INTENSIVE INDUSTRIAL MATERIALS	331.7	33.8	40 .9	25.9	746.6	29.0
	a	/ 22	Products of jute and other coarse fibres	194.6	19.3	122.0	7.8	316.6	12.3
	b	/ 31	Leather & tanned or dressed furs	20.5	2.0	77.7	4.9	98.2	3.8
	c	/ 24	Lumber, plywood, veneers, crates & other simple wood products	115.8	11.5	204.4	13.0	320.2	12.4
	d	/ 32	Building materials of clay, stone, etc.	10.8	1.1	2.9	.2	13.7	.5

Source: H.B. Lary, Table 8

Findings emerging from the above table are the following:

Main Group 1 - "Textile Clothing and Accessories" - has accounted for 32% representing the largest share in the total labour intensive imports of Developed from Less Developed countries.

Within this Group the following three Sub-Groups have constituted its major bulk:

Sub-Group f or 123 - "Clothing and Accessories", excl. goods or Leather and Rubber ..... with 15% (i.e., half the Main Group's total imports).

Sub-group b or 22 - Cotton Fabric Woven with 7%

Sub-Group e or 22 - Carpets and other Floor covering with 5%

Main Group 2 - Other Light Manufactures excl.Food - has shared 20% in the Total imports.

Within this Group the following 4 Sub-Groups have contributed to more than half its bulk, contributed to:

Sub-Group a or:30,31 Footwear and Other Products of Leather Rubber and Plastic Products n.e.c. and Rubber and Plastic with ... 3.8%

Sub-Group g or: 36 Electrical Apparatus and Appliances with 2.8%

Sub-group e or: 29 Games toys and sporting goods and Musical Instruments with 2.5%

Sub-group f or: 39 Jewellry and Silverware ... 2.3%

Main Group 3:- Labour-Intensive Food Manufactures and Cigars:
has shared 19% in the total within this Group the following Sub-Groups have been at par and accounted for almost the whole of the Group.

Sub-group a : "Fish and fish products" with 9.2% or:

Sub-group b: "Fruits and Vegetables" with 9.2%

Group 4: "Labour Intensive Industrial Manufactures" has accounted for 29% which represents a share quite close to that of Group 1.

Within this Group, the following Sub-Groups have been at par and accounted for its major bulk:

Sub-Group c - "Lumber Plywood Veneers Crates and Other Simple Wood Products with.....12.4%

Sub-Group s - "Products of Juts and Other Coarse Fibres" with.....12.3%

In conclusion, 16 Sub-Groups have been identified as generating "substantial demand" to varying degrees, i.e., accounting for shares between 19% and 1% in the total imports of labour intensive manufactures by Developed from Less Developed Countries.

Consequently, 19% has been established as the top level of the demand scale (as no Sub-Group has evidenced a higher share).

1% has been established as the bottom level of the "Demand Scale" on the assumption that the sum of $ 25 millions(1) represents still a considerable participation, however, limited at the Sub-Group level.

The relative weights of the various Sub-Groups in total imports differ in the United States as compared with Other Developed Countries.

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(1) 1% out of $ 2.5 billions the total value of Imports of Labour Intensive Manufactures from Less Developed to Developed Countries.

The Sub-Groups have been ranked and categorized according to demand as follows:

TABLE 9: RANKING AND CATEGORIZATION OF LABOUR INTENSIVE MANUFACTURES FROM LESS DEVELOPED COUNTRIES ACCORDING TO DEMAND IN DEVELOPED COUNTRIES BY SUB-GROUPS

Main Groups	Sub-Groups / U.S. SIC Code		% in total imports	Ranking
1	f / 23	Clothing & accessories excl. goods of Leather & Rubber	15.4	1
4	c / 24	Lumber, plywood veneers, crates & other simple wood products	12.4	2
4	a / 22	Products jute & other coarse fibres	12.3	3
3	a / 20	Fish and fish products	9.2	4
3	b / 20	Fruits and Vegetables	9.2	5
1	b / 22	Cotton Fabric Woven	7.1	6
2	f / 39	Misc. Manufacturing incl. costume jewellry, stationery & notions	5.8	7
1	c / 22	Carpets and other floor coverings	5.3	8
2	a / 30-31	Rubber & plastic products n.e.c. and Footwear, and Other products of Leather, Plastic and Rubber	3.8	9
4	b / 31	Leather tanned or dressed furs	3.8	10
2	j / 36	Electrical apparatus & appliances	2.8	11
2	e / 39	Games, Toys and sporting goods & musical instruments	2.5	12
2	f / 39	Jewellry and Silverware	2.3	13
1	d / 22	Textile small wear and specialities	1.9	14
1	a / 22	Yarn and Thread	1.4	15
2	i / 34	Cutlery, tools, hardware & other metal products	1.0	16

Main Groups	Sub-Groups / U.S. SIC Code	The United States	% in total imports	Categorization
4	a / 22	Products of jute & other coarse fibres	19.5	
1	f / 23	Clothing & Accessories excl. Goods of Leather & Rubber	17.9	Extensive Demand
4	c / 24	Lumber, Plywood veneers, crates & Other simple wood products	11.5	
2	g / 39	Misc. manufacturing incl. costume, jewellry, stationery &	6.9	
3	b / 20	Fruits and Vegetables	6.5	Medium Demand
1	b / 22	Cotton fabrics woven	6.1	
2	a / 31	Footwear & other products of Leather, Rubber & Plastic	5.4	
2	j / 36	Electrical apparatus and appliances	4.5	
3	a / 20	Fish and fish products	4.4	Limited Demand
2	e / 39	Games, toys & sporting goods & musical instruments	2.5	
4	b / 31	leather & tanned or dressed furs	2.0	
2	f / 39	Jewellry & Silverware	1.7	
1	e / 22	Carpets, & other floor coverings	1.5	Limited Demand
2	i / 34	Cutlery, tools, hardware & other metal products	1.4	
1	d / 22	Textiles, small wares & specialities	1.3	
4	d / 32	Building Material n.e.c., stone, etc.	1.1	

The above findings have enabled this Mission to establish the following Demand Parameters to serve both for the

screening and for the ranking of manufactures for the IPZITA in terms of demands as follows:

(a) percentages ranging between 15% and 10% to determine 'Extensive Demand'

(b) percentages ranging between 10% and 5% to determine a 'Medium High Demand'

(c) percentages ranging between 5% and 2% to determine 'Medium Demand'

(d) percentages ranging between 2% and 1% to determine 'Limited Demand'

(d) Summing up In conclusion, the following criteria set up has served to identify the features of the various types of Manufactures and thereby enabled to assess their appropriateness to the IPZITA.

Parameter for measuring labour intensity:

VAE 49 to 80 for Labour Intensive par excellence

VAE 90 to 109 for Marginal Labour Intensive

VAE 110 and over for Capital Intensive

Parameters for measuring Value/Weight relationship

Ratios between 11.0 $/lbs. and 7.5 $/lbs. for Low-Weight/High-Value

Ratios between 7.5 $/lbs. and 5.0 $/lbs. for Medium-Weight/High Value

Ratios between 5.0 $/lbs. and 1.5 $/lbs. for Medium Weight/Medium Value

Parameters for measuring Demand:

percentages between 19% and 10% for Extensive Demand
" " 10% and 5% " Medium High Demand
" " 5% and 2% " Medium Demand
" " 2% and 1% " Limited Demand

Additional criteria for screening are the following:

Appropriateness to the "Interior"

Resource - orientation

Noxiousness

2.2 The 'Screening-Selection' process of Labour Intensive Manufactures for the [illegible]

2.2.1 Screening of Labour Intensive Manufactures at the level of Sub-Groups (2 digit)

Using the above criteria a first screening of the various types of manufactures at the Sub-Group level could be effected.

Accordingly, a wide range was excluded for the following reasons:

(a) VAR exceeding 110;
(and thereby falling within the Capital Intensive category)

and/or:

(b) Value/Weight ratio below 1.50;
(and thereby failing to fulfill the minimal requirements for efficient use of air freight);

and/or:

(c) Demand below 1%
(and thereby falling below the 'Limited Demand' category)

and/or:

(d) More appropriate to Panama's 'Interior'

and/or:

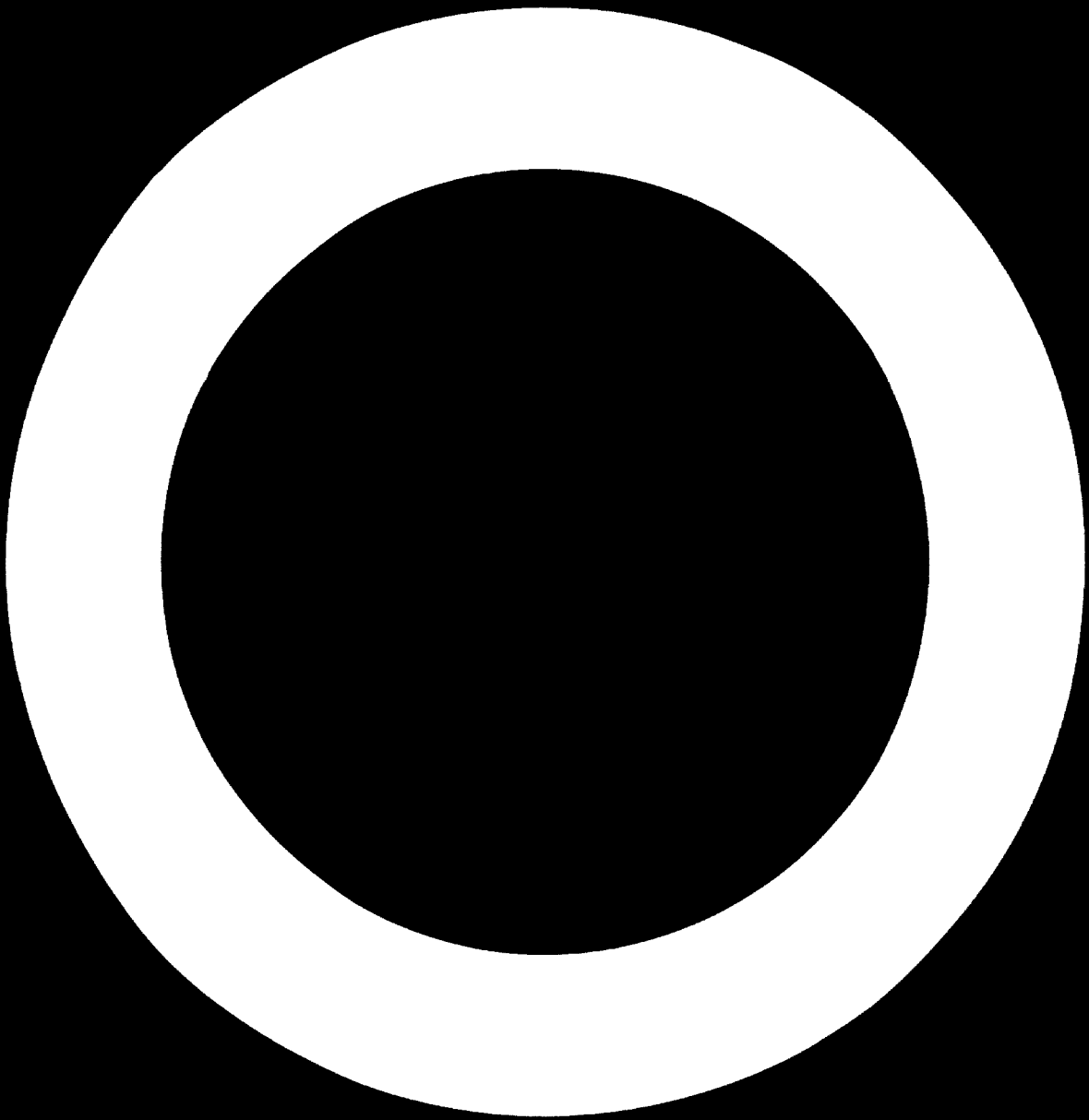
(e) Resource orientation

and/or:

(f) Noxiousness

TABLE 10: ENGAGED LABOUR INTENSIVE MANUFACTURES IN TERMS OF APPROVE ANNEXED TO THE 'IPRITA'
SCREENING AT THE SUB-GROUP LEVEL (2-DIGIT)

Main Group	SIC Code Sub-Group	SIC Code Two Digit	Description	Screening Criteria: VAS exceeding 110	Value/weight ratio below 1.50	Demand below 9%	Share in [illegible] since 1965	Appropriate in 'Interior'	Resource Oriented	Noxious-ness	Remarks
-	-	33	Primary metal industries	115					X		
2	K /	37	Transportation equipment	153							
3	C /	21	Tobacco Manufactures	179				X			
-	-	28	Chemical and allied products	195							
-	-	29	Petroleum and Coal Products	220							
	a /	22	Yarn and thread				X				
	b /	22	Cotton fabric woven				X				
1	c /	22	Other woven fabrics excl. jute products			0.8					
	d /	22	Textile small ware specialities				X				
	e /	22	Carpets and other floor coverings				X				
	b /	32	Glassware, china, pottery & misc. Non-metallic mineral products		X	0.2					
	a /	25	Furniture		X	0.4					
2	d /	27	Books and other printed matter	70	X	0.3					Except (1)Greeting card manufacturing VAS 70.4 SIC 2771; (2)Printing lithographic 64.6 2752; (3)Engraving & plate printing 79.2 2753
	h /	38	Optical goods, cameras, watches and instruments	93		0.3					Except (1)Spectacles & frames 73.4 3851; Binoculars (out of 'Optical instruments & lenses') 96.4 3831; (2)Calculating or accounting machines, etc. 88.5 35712; (3)[illegible] machines, Office
	k /	35	Non-electrical machinery and equipment			0.5					
	a /	20	Fish and fish products					X	X		
3	b /	20	Fruits and Vegetables					X	X		
	c /	20-21	Misc. food products and cigars					X	X		
	a /	22	Products of jute and other coarse fibres					X	X		
4	b /	31	Leather and manufactured of dressed fure		X			X	X	X	
	c /	24	Lumber, plywood, veneers, crates and others					X	X		
	d /	32	Building materials of clay, stones, etc.		X			X	X		



The above screening has lead to the exclusion of Main Groups 3 and 4. The reason being: their resource - oriented nature, their being best suited to Panama's 'Interior' and their low value/ weight ratios.

In addition, the whole of Main Group 1 was excluded except for one Sub-Group only - f/23, "Clothing & Accessories excluding Goods of Leather and Rubber." In this case, the reason has been the most sharp drop in demand evidenced in recent years, apparently resulting from over saturation of Developed Countries markets which failed to be reflected in Lary's study updated to 1965 and including no further data for later years. As a result the manufactures for the IFZITA have all except "Clothing, etc." of Main Group 1, been selected from Main Group 2.

It is worthwhile reminding in this connection the remarkable share of Group 2 in Developed Countries Markets especially in U.S.A. and also the rapid expansion of demand in Developed markets for the commodities produced by this Main Group.

However, a number of Sub-Groups in Main Group 2 have been also excluded on grounds of low demand and/or low value/weight ratios. Nevertheless, this has not deterred from selecting individual industries, from among these discarded Sub-Groups, which appeared to possess appealing attributes (see the "remarks" column in table 10).

2.2.2 Selection of Labour Intensive Manufactures at the level of Sub-Group (2 digits)

Subsequent to the above screening, a first selection (at the Sub-Group level) of Labour Intensive types of Manufactures could be effected for the IFZITA; as in attached Table 11.

TABLE 11: SELECTED LABOUR INTENSIVE MANUFACTURES IN TERMS OF APPROPRIATENESS TO THE IF ITA AT THE SUB-GROUPS LEVEL (TWO DIGITS)

Main Group	Sub-Group SIC Code	Sub-Group Description	Selection Criteria: Value Added Employee (in $)	Value/weight ratio (in $/lbs.) Findings	Value/weight ratio (in $/lbs.) Estimates	Share in Market Demand in Developed Countries (in %) U.S.	Share in Market Demand in Developed Countries (in %) O.D.C.	Share in Market Demand in Developed Countries (in %) Total
1 Textile, Clothing and Accessories	f/23	Clothing and Accessories* excluding Goods of Leather and Rubber	47.4	5.4	-	17.9	13.8	15.2
2 Other Light Manufactures incl. Food	a/30	Rubber and Plastic Products n.e.c.	93	-	4.50	5.4	2.8	3.8
	d/27	Books and Other Printed Matter*	78.5	-	3.00	0.4	0.2	0.3
	a/39	Games, Toys, Sporting Goods & Musical Instruments	77.6	-	5.00	2.5	2.6	2.5
	f/39	Jewellry and Silverware*	81.6	-	7.00	1.7	2.7	2.3
	g/26	Misc.Manufactures and costume jewellry stationery and notions*	79.3	-	4.00	8.9	3.8	5.8
	h/38	Optical goods, cameras, watches & instruments**	92.9	7.50	-	0.3	0.3	0.3
	i/34	Cutlery, tools, hardware and other metal products*	91.3	-	-	1.4	0.7	1.0
	i/36	Electrical apparatus and appliances*	91.5	2.67	-	4.6	1.7	2.8
	h/35	Home electrical machinery and equipment**	102.0	5.65	-	0.4	0.6	0.5

* Only parts of these Sub-Groups have been selected on the final 'round' at the 4 digit level. Certain industries which are currently viewed impracticable in the light of past Panamanian experience have been excluded.

**A few industries from these Sub-Groups which are considered particularly promising, have been selected although the Sub-Group as such has been screened.

2.2.3 Selection of Labour-Intensive Manufactures at the level of 'Industry-Product' (4-5 digits)

Having established the Selected Sub-Groups, a tedious exploration into their components was undertaken with view to select those 'industries' capable of providing a relatively optional response to the aforementioned selection criteria.

However, a further elaboration had to be introducted to the "Demand' Criteria.

While having established 1% in total imports from Less Developed Countries as the bottom level of "Demand",for the whole of a Sub-Group,we had to settle for less and go down to 0.1% with regard to individual 'Industries', on the assumption that a £ 2.5 million value of imports represents still noticeable demand however limited at the 4-5 digit level.

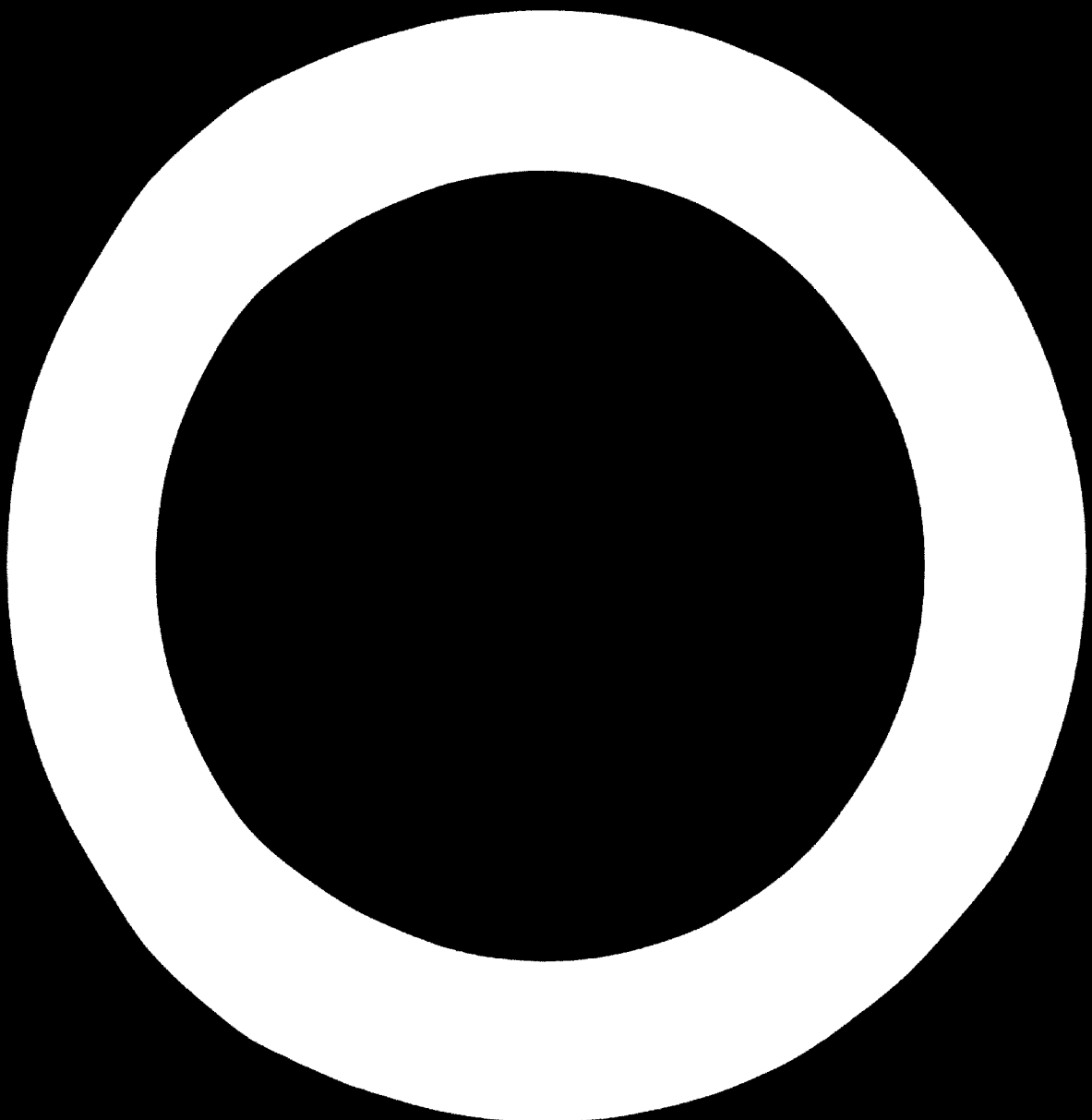
TABLE 12: LABOUR INTENSIVE MANUFACTURES RECOMMENDED FOR THE IFZITA - (at the industry/product level - 4/5 digits)

Main Group	Sub Group	Industry SIC* Code	Industry Description	Link between SIC and SITC	Product SITC** Code	Product Description	Percentage Labour (in %) Corresponding to SIC/Code: Top (2-3 digit)	(4-5 digit)	Average (4-5 digit)	Ranking	Value/weight ratio (in $/lbs.): High	Medium	Ranking	Imports from less developed countries: Value $ mln.	%	Ranking	(1) as % of ...	Imports ... from ...: Value in $ mln.	%	Ranking	Share in total ... imp. %	Source	Composite Ranking
Total Imports by Developed from Less Developed Countries 1966														1009.8	100.0		17.7	1571.0	100.0		17.2		
1 Clothing Textiles and Accessories	f/23 Clothing Accessories excl. Goods of leather and Rubber	2311 235 234 235 2384	Men's & boys' suits and coats Youth & misses outwear Women's & children's underwear Children's outwear Robes & dressing gowns		8411 8412 8414	Clothing of textile, textile fabric, not knitted or crocheted Clothing & accessories of textile fabrics not knitted and not crocheted Clothing & accessories of textile fabrics knitted or crocheted	67.6	56.9 67.6 60.6 66.8 65.8	69.1	1	5.4	-	2	180.8	17.4	1	37.8	810.9	13.6	1	15.6	(9)	1
	e/30 Rubber and Plastic Products n.e.c.	30695 30697 30698 30797 30798	Rubber heels only Druggist medical sundries Other rubber goods n.e.c. Plastic dinnerware, etc. Consumer & commercial plastic products n.e.c.		6299 893	Articles of rubber n.e.c. Articles of artificial plastic materials n.e.c.	57.6	76.2 58.7 96.1 90.7 73.6	85.9	8	-	4.5	10	13.9	1.4	5	10.6	6.6	0.4	4	1.9	(88)	7
	d/27 Books and Other Printed Matter	2771 2751 2752 2753	Greeting Card manufacturing Printing except lithographic Printing lithographic Engraving and plate printing		892[1]	Printed matter	70.5	70.4 80.7 73.5 79.2	78.0	5	-	6.0	3	4.2	0.4	8	7.2	8.7	0.2	6	0.6	(88)	8
	e/39 Games, Toys Sporting Goods and Musical Instruments	3931	Musical instruments & parts		891[3]	Musical instruments, sound-recorders & producers & parts	77.6	74.3	-	3	-	7.0	4	1.9	0.2	2	3.4	0.7	0.04	2	0.4	(27)	4
		3941 3942 3949	Games & toys Dolls Sporting and athletic goods		894[2]	Toys, games & sporting goods		69.8 54.7 73.5	66.0	1	-	5.0	5	23.6	2.3	2	16.2	30.0	1.9	2	11.0	(16)	2
	f/39 Jewellery & Silverware	3914	Silverware & plated ware		8971	Silversmiths' ware	81.5	66.6	-	2	-	7.0	4	1.1	0.1	10	7.0	3.0	0.2	6	3.3	(69)	12
2 Other Light Manufactures except Food	g/39 Miscellaneous Manufactures incl. costume jewellry, stationery & notions	3961	Costume jewellry & costume novelties		8972	Imitation jewellry	79.3	62.0	-	2	-	5.8	8	5.0	0.5	7	80.7	3.6	0.2	6	6.7	(23)	2
	h/38 Optical goods, Cameras, Watches & Instruments	3831	Optical instruments & lenses		8613	Binoculars	90.9	96.4	-	12	-	8.0	8	0.6	0.1	10	8.4	1.4	0.1	7	8.5	(31)	11A
		38611	Still picture equipment		8614 8616	Photographic cameras and flashlights apparatus Photographic & cinematographic apparatus & equipment n.e.s.		100.0	-	13	7.5	-	3	1.1	0.1	10	8.6	1.6	0.1	7	1.6	(35)	13
	i/34 Cutlery, Tools Hardware & Other Metal Products	34211	Cutlery, scissors, shears, etc.		696	Cutlery	91.3	78.7	-	4	-	2.6	12	1.5	0.1	10	3.3	3.8	0.2	6	3.2	(37)	12A
	j/36 Electrical Apparatus and Appliances	36511	Household & Automobile radio		7242	Radio broadcast receivers	91.5	97.8	-	8	11.1	-	1	19.8	2.0	3	13.3	0.8	0.5	3	4.1	(19)	8
		3661 3662	Telephone telegraph apparatus Radio, TV communication equipment		7249	Telecommunication equipment n.e.s.		101.6 - 90.0	90.3	14	11.1	-	1	5.9	0.6	6	3.6	8.1	0.7	2	0.3	(20)	8
		367	Electronic components		7293	Thermionic, etc., valves & Tubes, photocells, transistors		79.5	-	2	11.1	-	1	0.2	0.9	3	14.4	0.0	0.05	2	0.2	(21)	4
		3642	Lighting fixtures		8124	Lighting fixtures, fittings etc.		90.4	-	11	-	3.0	11	4.8	0.5	7	14.5	8.0	0.8	2	7.4	(20)	12B
	k/35 Non-electro-electrical Machinery and Equipment	35712	Computing & Accounting machinery incl. cash registers		7142 43 49	Calculating machines, accounting machines, etc. Statistical machines Office machines, n.e.s.	100.0	88.5	-	10	3.6	-	5	1.3	0.1	10	1.4	4.4	0.3	5	0.4	(31)	11B

Source: Based on H.B. Lary Appendix C- Table C-

* SIC - U.S. Standard Industrial Classification

** SITC - Standard International Trade Classification



2.2.4 Ranking of the selected manufactures for the IFZITA

Finally, the recommended manufactures listed in Table 12 went through a rnaking process with view to establish the position of each selected manufacture in relation to the others and derive therefrom conclusions on priorities and relative importance of each component within the recommended list.

At the first instance, manufactures were ranked in four separated ranking, one for each criterion (VAE, Valuc/weight Demand in USA, Demand in Other Developed Countries). Then, a composite ranking was effected.

The place of each manufacture in the composite ranking was calculated by adding the ranking numbers which served to identify each manufacture in each of the 4 different rankings.

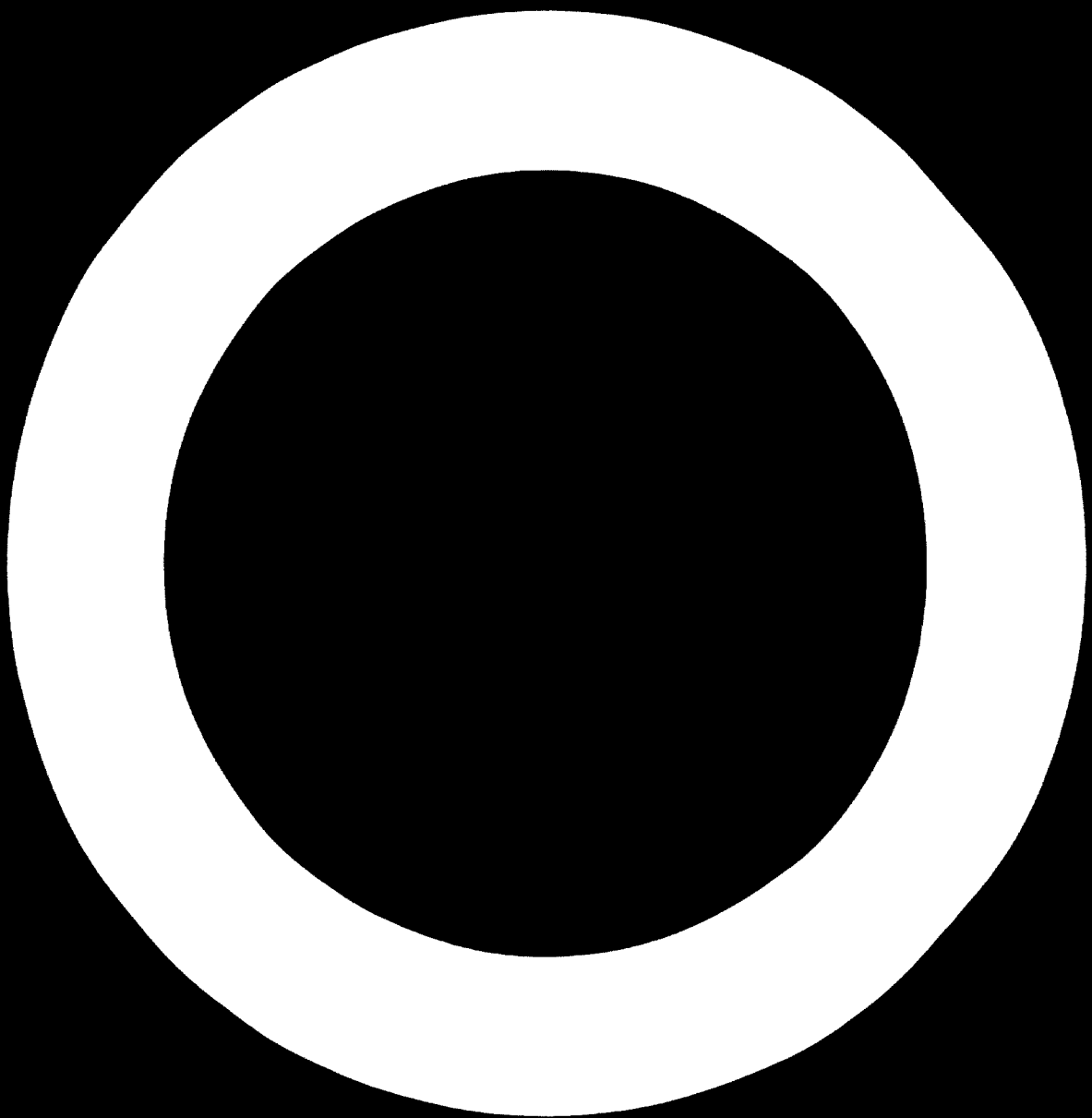
TABLE 13 : RANKING OF LABOUR INTENSIVE MANUFACTURES FOR THE IFZITA

Main Group	SIC Code	Sub-Group	Industry SIC* Code	Industry Description	Link between SIC & SITC	Product SITC Code	Product Description	Composite Ranking	Value Added Employee in % Corresp. to SIC/Code By Industry	Value Added Employee in % Corresp. to SIC/Code Average	Value/Weight ratio in (¢/lbs.)	Import in USA (from ... % of tot. import
1 Clothing, Textile and Accessories	f/23	Clothing & Accessories excl. Goods of Leather and Rubber	2311	Mens & boys coats		8411	Clothing of textile fabric not knitted or crocheted	1	55.9	49.1	5.4	17.8
			233	Women & misses outwear					47.6			
			234	Women & children underwear		8412	Clothing & accessories of textile fabric not knitted or croch		49.6			
			236	Children's outwear					46.8			
			2384	Robes & dressing gowns		8414	Clothing & accessories of textils fabric knitted or crocheted		45.8			
2 Other Light-Manufactures Except Food	j/36	Electrical Apparatus and Appliances	36511	Household & automobile radio		7242	Radio broadcast receivers	2	97.8	-	11.1	2.0
	e/39	Games, Toys, Sporting Goods and Musical Instruments	3941	Games & toys		894[k]	Toys, games & sporting goods	3	69.8	66.0	5.0	2.3
			3942	Dolls					54.7			
			3949	Sporting & athletic goods					73.5			
	j/36	(As above)	367	Electronic components		7293	Thermionic etc., valves & tubes, photocells, transistors	4	79.5	-	11.1	0.9
	g/39	Misc. Manufactures incl. Costume Jewelry Stationary & Notions	3961	Costume jewelry & costume novelties		8972	Imitation jewelry	5	62.0	-	5.2	0.5
	d/27	Books & Other Printed Matter	2771	Greeting-card manufacturing				6	78.4	78.0	6.0	0.4
			2751	Printing except lighographic					80.7			
			2752	Printing lithographic		892[i]	Printed matter		73.5			
			2753	Engraving & plate printing					79.2			
	a/30	Rubber and Plastic Products n.e.c.	30696	Rubber heels (only)				7	76.2	85.9	4.5	1.4
			30697	Druggist medical sundries		6299	Articles of rubber n.e.s.		92.7			
			30698	Other rubber goods n.e.c.					96.1			
			30797	Plastic dinnerware, etc.					90.7			
			30798	Consumer & commercial plastic products n.e.c.		893	Articles of artificial plastic materials n.s.s.		73.6			
	e/39	(As above)	3931	Musical instruments & parts		891[j]	Musical instruments, sound recorders, & producers & parts	8	74.3	-	7.0	0.2
	j/36	(As above)	3661	Telephone & Telegraph apparatus				9	101.6	98.3	11.1	0.6
			3662	Radio, TV communication equipment		7249	Telecommunication equipment n.e.s.		95.0			
	f/39	Jewelry & Silverware	3914	Silverware & plateware		8971	Silversmith's ware	10	86.6	-	7.0	0.1
	k/35	Non-electrical Machinery and Equipment	35[illegible]	Computing & accounting machinery incl.cash registers.		7142	Calculating machines, accounting machines, etc.	11	88.5	-	5.0	0.1
						7143	Statistical machines					
						7148	Office machines, n.e.s.					
	k/38	Optical Goods, Cameras, Watches and Instruments	3831	Optical instruments & lenses		8613	Binoculars (only)		96.4	-	8.0	0.1
	j/36	(As above)	[illegible]	Lighting fixtures		8124	Lighting fixtures & fittings, et	12	90.4	-	3.0	0.5
	i/34	Cutlery, Tools, Hardware & Other Metal Products	34211	Cutlery, scissors, shears, etc.		696	Cutlery		72.7	-	2.6	0.1
	h/38	(As above)	38611	Still picture equipments		8614	Photographic cameras & flash-lights apparatus	13	108.0	-	7.5	0.1
						8616	Photographic & cinematographic apparatus & equipment n.e.s.					

Source: Table 12 above.

TABLE 13 : RANKING OF LABOUR INTENSIVE MANUFACTURES FOR THE IPZITA

Sub-Group	Industry SIC* Code	Industry Description	Link between SIC & SITC	Product SITC Code	Product Description	Composite Ranking	Value Added Employee in $ Coverage, by Industry	Value Added Employee in $ Coverage, to SIC/Code Average	Value/Weight ratio in ($/lbs.)	Demand in USA from L.D.C. % of total import	Demand in USA from L.D.C. share in total USA Ind. import	Demand in O.E.C.D. from D.C. % of total import	Demand in O.E.C.D. from D.C. share in total DC Industry's import
Clothing & Accessories excl. Goods of Leather and Rubber	2311	Mens & boys coats		8411	Clothing of textile fabric not knitted or crocheted	1	55.9	49.1	5.4	17.8	37.2	13.4	15.4
	233	Women & misses outwear		8412	Clothing & accessories of textile fabric not knitted or crochet		47.6						
	234	Women & children underwear					49.6						
	236	Children's outwear		8414	Clothing & accessories of textile fabric knitted or crocheted		46.8						
	2384	Robes & dressing gowns					45.8						
Electrical Apparatus and Appliances	36511	Household & automobile radio		7242	Radio broadcast receivers	2	97.8	-	11.1	2.0	13.3	0.5	4.1
Games, Toys, Sporting Goods and Musical Instruments	3941	Games & toys		894[k]	Toys, games & sporting goods	3	69.8	66.0	5.0	2.3	16.2	1.9	11.0
	3942	Dolls					54.7						
	3949	Sporting & athletic goods					73.5						
(As above)	367	Electronic components		7293	Thermionic etc., valves & tubes, photocells, transistors	4	79.5	-	11.1	0.9	14.6	0.3	0.4
Misc. Manufactures incl. Costume Jewelry Stationary & Notions	3961	Costume jewelry & costume novelties		8972	Imitation jewelry	5	62.0	-	5.2	0.5	20.7	0.2	6.7
Books & Other Printed Matter	2771	Greeting-card manufacturing		892[l]	Printed matter	6	78.4	78.0	6.0	0.4	7.2	0.2	0.6
	2751	Printing except lighographic					80.7						
	2752	Printing lithographic					73.5						
	2753	Engraving & plate printing					79.2						
Rubber and Plastic Products n.e.c.	30696	Rubber heels (only)		6299	Articles of rubber n.e.s.	7	76.2	85.9	4.5	1.4	19.6	0.4	1.9
	30697	Druggist medical sundries					92.7						
	30698	Other rubber goods n.e.c.					96.1						
	30797	Plastic dinnerware, etc.		893	Articles of artificial plastic materials n.e.s.		90.7						
	30798	Consumer & commercial plastic products n.e.c.					73.6						
(As above)	3931	Musical instruments & parts		891[j]	Musical instruments, sound recorders, & producers & parts	8	74.3	-	7.0	0.2	3.4	0.04	0.4
(As above)	3661	Telephone & Telegraph apparatus				9	101.6	98.3	11.1	0.6	5.6	0.1	0.3
	3662	Radio, TV communication equipment		7249	Telecommunication equipment n.e.s.		95.0						
Jewelry & Silverware	3914	Silverware & plateware		8971	Silversmith's ware	10	86.6	-	7.0	0.1	7.0	0.2	3.3
Non-electrical Machinery and Equipment	35412	Computing & accounting machinery incl.cash registe.		7142	Calculating machines, accounting machines, etc.	11	88.5	-	5.0	0.1	1.4	0.3	0.4
				7143	Statistical machines								
				7149	Office machines, n.e.s.								
Optical Goods, Cameras, Watches and Instruments	3831	Optical instruments & lenses		8613	Binoculars (only)		96.4	-	8.0	0.1	2.1	0.1	2.5
(As above)	3842	Lighting fixtures		8124	Lighting fixtures & fittings,es	12	30.4	-	3.0	0.3	14.5	0.5	7.4
Cutlery, Tools, Hardware & Other Metal Products	34211	Cutlery, scissors, shears, etc.		696	Cutlery		72.7	-	8.6	0.1	3.5	0.2	3.2
(As above)	38611	Still picture equipments		8614	Photographic cameras & flashlights apparatus	13	100.0	-	7.5	0.1	2.6	0.1	1.6
				8616	Photographic & cinematographic apparatus & equipment n.e.s.								



2.2.2 Conclusions; Strategy for implementation

a. The establishment of the IFZITA should include two main phases: at the initial phase, the IFZITA should concentrate on manufactures featured as "Labour Intensive par Excellence" (i.e., those which will be largely operated by unskilled manpower and whose production process is relatively not complicated) and having evidenced notable demand in markets of Developed Countries.

This method would enable to make the best possible use of the cheapest available labour which at the same time has sufficient know-how to cope with the market requirements imposed by these simple manufactures.

Such a strategy is likely to enable for the products to achieve reasonable prices and quality and thereby satisfactory market penetration. Consequently, this will secure the IFZITA with a successful start which is critical to its further development.

Manufactures considered to be suited to this initial stage are those designated by a [redacted] frame in the following table:4BA

Such a strategy would allow the necessary lapse of time for the training of a new cadre of skilled manpower to engage in more sophisticated types of manufactures which should be established at the second phase, such as those framed in [redacted] in the above same table.

TABLE 13A : IMPLEMENTATION PHASES FOR THE IFZITA

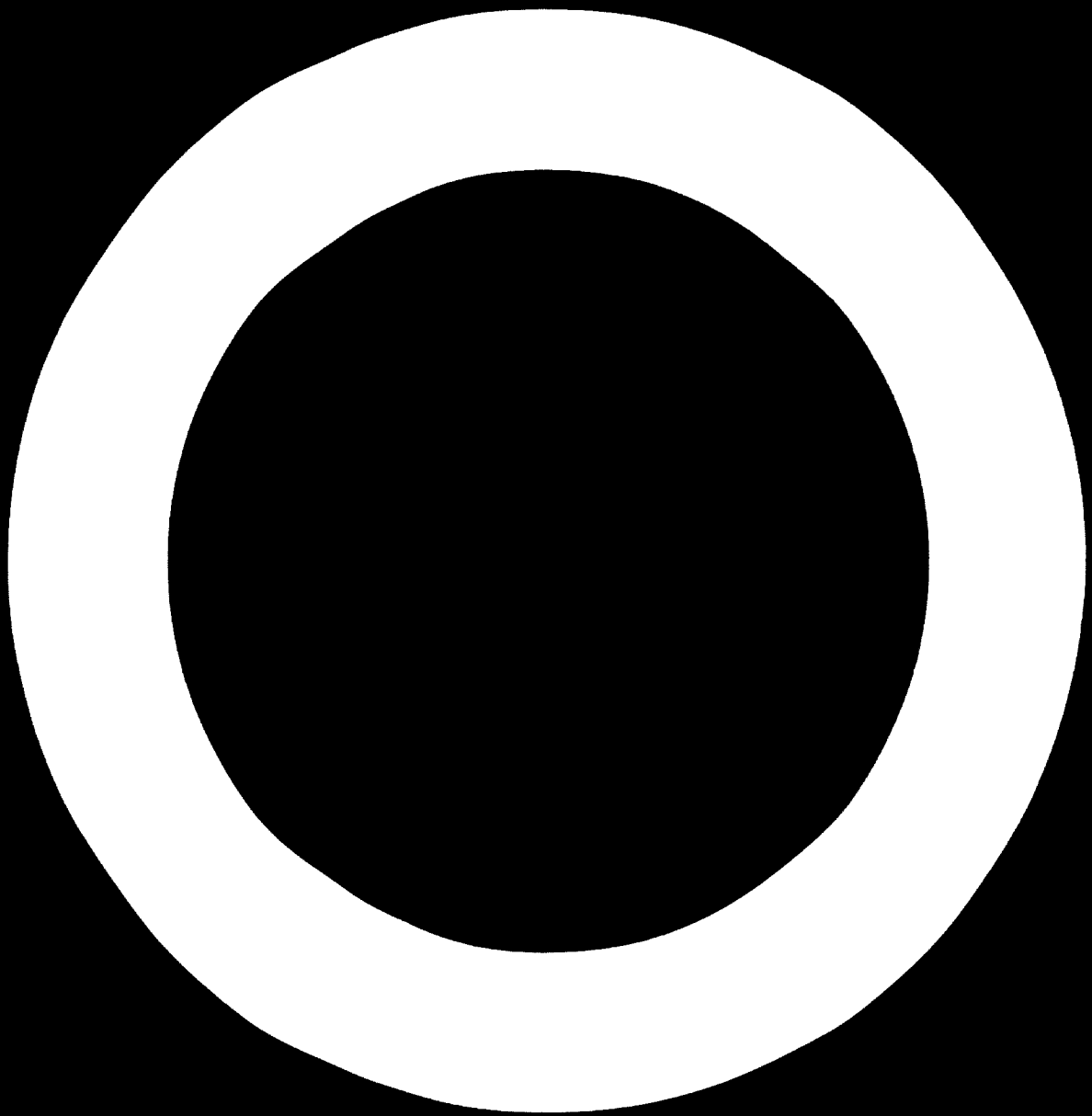
Main Group	SIC Code	Sub-Group	Industry: SIC Code	Industry: Description	Link between SIC & SITC	Product: SITC Code	Product: Description	Composite Ranking	Value Added Employee in % Corresp. to SIC/Code: By Industry	Value Added Employee in % Corresp. to SIC/Code: Average	Value/Weight ratio in (¢/lbs.)	Duty in USA from LDC's: % of total import	Duty in USA from LDC's: % of total tota... USA I... (2)
1 Clothing, Textile and Accessories	f/23	Clothing & Accessories excl. Goods of Leather and Rubber	2311	Mens & boys coats		8411	Clothing of textile fabric not knitted or crocheted	1	55.9 47.6 49.6 46.8 45.8	49.1	5.4	17.8	37.2
			233 234 236 2384	Women & misses outwear Women & children underwear Children's outwear Robes & dressing gowns		8412 8414	Clothing & accessories of textile fabric not knitted or croch... Clothing & accessories of textile fabric knitted or crocheted						
	j/36	Electrical Apparatus and Appliances	36511	Household & automobile radio		7242	Radio broadcast receivers	2	97.8	-	11.1	2.0	13.3
	e/39	Games, Toys, Sporting Goods and Musical Instruments	3941 3942 3949	Games & toys Dolls Sporting & athletic goods		894[k]	Toys, games & sporting goods	3	69.8 54.7 73.5	66.0	5.0	2.3	16.2
	j/36	(As above)	367	Electronic components		7293	Thermionic etc., valves & tubes, photocells, transistors	4	79.5	-	11.1	0.9	14.6
	g/39	Misc. Manufactures incl. Costume Jewelry Stationary & Notions	3961	Costume jewelry & costume novelties		8972	Imitation jewelry	5	62.0	-	5.2	0.5	20.7
2 Other Light-Manufactures Except Food	d/27	Books & Other Printed Matter	2771 2751 2752 2753	Greeting-card manufacturing Printing except lighographic Printing lithographic Engraving & plate printing		892[i]	Printed matter	6	78.4 80.7 73.5 79.2	78.0	6.0	0.4	7.2
	a/30	Rubber and Plastic Products n.e.c.e.	30696 30697 30698 30797 30798	Rubber heels (only) Druggist medical sundries Other rubber goods n.e.c. Plastic dinnerware, etc. Consumer & commercial plastic products n.e.c.		6299 893	Articles of rubber n.e.s. Articles of artificial plastic materials n.e.s.	7	76.2 92.7 96.1 90.7 73.6	85.9	4.5	1.4	19.6
	e/39	(As above)	3931	Musical instruments & parts		891[j]	Musical instruments, sound recorders, & producers & parts	8	74.3	-	7.0	0.2	3.4
	j/36	(As above)	3661 3662	Telephone & Telegraph apparatus Radio, TV communication equipment		7249	Telecommunication equipment n.e.s.	9	101.6 95.0	98.3	11.1	0.6	5.6
	f/39	Jewelry & Silverware	3914	Silverware & plateware		8971	Silversmith's ware	10	86.6	-	7.0	0.1	7.0
	k/35	Non-electrical Machinery and Equipment	3578	Computing & accounting machinery incl.cash registers.		7142 7143 7149	Calculating machines, accounting machines, etc. Statistical machines Office machines, n.e.s.	11	88.5	-	5.0	0.1	1.4
	k/38	Optical Goods, Cameras, Watches and Instruments	3831	Optical instruments & lenses		8613	Binoculars (only)		96.4	-	8.0	0.1	2.1
	j/36	(As above)	3641	Lighting fixtures		8134	Lighting fixtures & fittings, etc	12	90.4	-	3.0	0.5	14.5
	i/34	Cutlery, Tools, Hardware & Other Metal Products	34211	Cutlery, scissors, shears, etc.		696	Cutlery		72.7	-	2.6	0.1	3.5
	h/38	(As above)	38611	Still picture equipments		8614 8616	Photographic cameras & flash-light apparatus Photographic & cinematographic apparatus & equipment n.e.s.	13	108.0	-	7.5	0.1	2.6

Source: Table 12 above.

TABLE 13A : IMPLEMENTATION PHASES FOR THE IFZITA

Sub-Group	Industry SIC* Code	Industry Description	Link between SIC & SITC	Product SITC Code	Product Description	Composite Ranking	Value Added Employee in % Corresp. to SIC/Code By Industry	Value Added Employee in % Corresp. to SIC/Code Average	Value/Weight ratio in (¢/lbn.)	Demand in USA from L.D.C. from LDC % of total import	Demand in USA from L.D.C. share in total USA Ind. import (%)	Demand in O.D.C. from LDC % of total import	Demand in O.D.C. from D.D.C. share in total DC Industry's import (%)
Clothing & Accessories excl. Goods of Leather and Rubber	2311	Mens & boys coats		8411	Clothing of textile fabric not knitted or crocheted	1	55.9	49.1	5.4	17.8	37.2	13.4	15.4
	233	Women & misses outwear		8412	Clothing & accessories of textile fabric not knitted or croch		47.6						
	234	Women & children underwear					49.6						
	236	Children's outwear		8414	Clothing & accessories of textile fabric knitted or crocheted		46.8						
	2384	Robes & dressing gowns					45.8						
Electrical Apparatus and Appliances	36511	Household & automobile radio		7242	Radio broadcast receivers	2	97.8	-	11.1	2.0	13.3	0.5	4.1
Games, Toys, Sporting Goods and Medical Instruments	3941	Games & toys		894[k]	Toys, games & sporting goods	3	69.8	66.0	5.0	2.3	16.2	1.9	11.0
	3942	Dolls					54.7						
	3949	Sporting & athletic goods					73.5						Y
(As above)	367	Electronic components		7293	Thermionic etc., valves & tubes, photocells, transistors	4	79.5	-	11.1	0.9	14.6	0.3	0.4
Misc. Manufactures incl. Costume Jewelry & Stationary & Notions	3961	Costume jewelry & costume novelties		8972	Imitation jewelry	5	62.0	-	5.2	0.5	20.7	0.2	6.7
Books & Other Printed Matter	2771	Greeting-card manufacturing		892[i]	Printed matter	6	78.4	78.0	6.0	0.4	7.2	0.2	0.6
	2751	Printing except lithographic					80.7						
	2752	Printing lithographic					73.5						
	2753	Engraving & plate printing					79.2						
Rubber and Plastic Products n.e.c.	30696	Rubber heels (only)		6299	Articles of rubber n.e.s.	7	76.2	85.9	4.5	1.4	19.6	0.4	1.9
	30697	Druggist medical sundries					92.7						
	30698	Other rubber goods n.e.c.					96.1						
	30797	Plastic dinnerware, etc.		893	Articles of artificial plastic materials n.e.s.		90.7						
	30798	Consumer & commercial plastic products n.e.c.					73.6						
(As above)	3931	Musical instruments & parts		891[j]	Musical instruments, sound recorders, & producers & parts	8	74.3	-	7.0	0.2	3.4	0.04	0.4
(As above)	3661	Telephone & Telegraph apparatus		7249	Telecommunication equipment n.e.s.	9	101.6	98.3	11.1	0.6	5.6	0.1	0.3
	3662	Radio, TV communication equipment					95.0						
Jewelry & Silverware	3914	Silverware & plateware		8971	Silversmith's ware	10	86.6	-	7.0	0.1	7.0	0.2	3.3
Non-electrical Machinery and Equipment	357	Computing & accounting machinery incl.cash registers.		7142	Calculating machines, accounting machines, etc.	11	88.5	-	5.0	0.1	1.4	0.3	0.4
				7143	Statistical machines								
				7149	Office machines, n.e.s.								
Optical Goods, Cameras, Watches and Instruments	3851	Optical instruments & lenses		8613	Binoculars (only)		96.4	-	8.0	0.1	2.1	0.1	2.5
(As above)	3641	Lighting fixtures		8124	Lighting Fixtures & Fittings, etc	12	90.4	-	3.0	0.5	14.5	0.5	7.4
Cutlery, Tools, Hardware & Other Metal Products	34911	Cutlery, scissors, shears etc.		696	Cutlery		72.7	-	2.6	0.1	3.5	0.2	3.2
(As above)	38511	Still picture equipments		8614	Photographic cameras & flash-light apparatus	13	108.0	-	7.5	0.1	2.6	0.1	1.6
				8616	Photographic & cinematographic apparatus & equipment n.e.c.								

FIRST PHASE SECOND PHASE



b. Notwithstanding the relatively "Limited Demand" evidenced, so far by all sophisticated manufactures included in table 13 - ("Ranking of Labour Intensive Manufactures recommended for the IFZITA") save one (36511 Household & automobile radio; 7242 Radio broadcast receivers) this mission tends to contemplate them as "Growth Manufactures". This view is based on the assumption that these manufactures will gradually improve over time the quality of their products and that at the same time the demand for such products in markets of Developed Countries will grow both due to the rise in levels of incomes and to the sinking of "traditional" commodities into obsolescence.

The present low level of demand generated by these manufactures can be explained on grounds of the fierce competition existing at present between Developed Countries themselves, on the one hand, and the failure of such products from Less Developed Countries to compete with them, on the other.

The latent potential which these sophisticated manufactures are believed to possess explains the important role they are expected to play in the future development of the IFZITA.

This would also throw light on the extensive efforts recommended for their initiation and further stimulation in the form of incentives and training programmes and on their proposed shares in the IFZITA's total output.

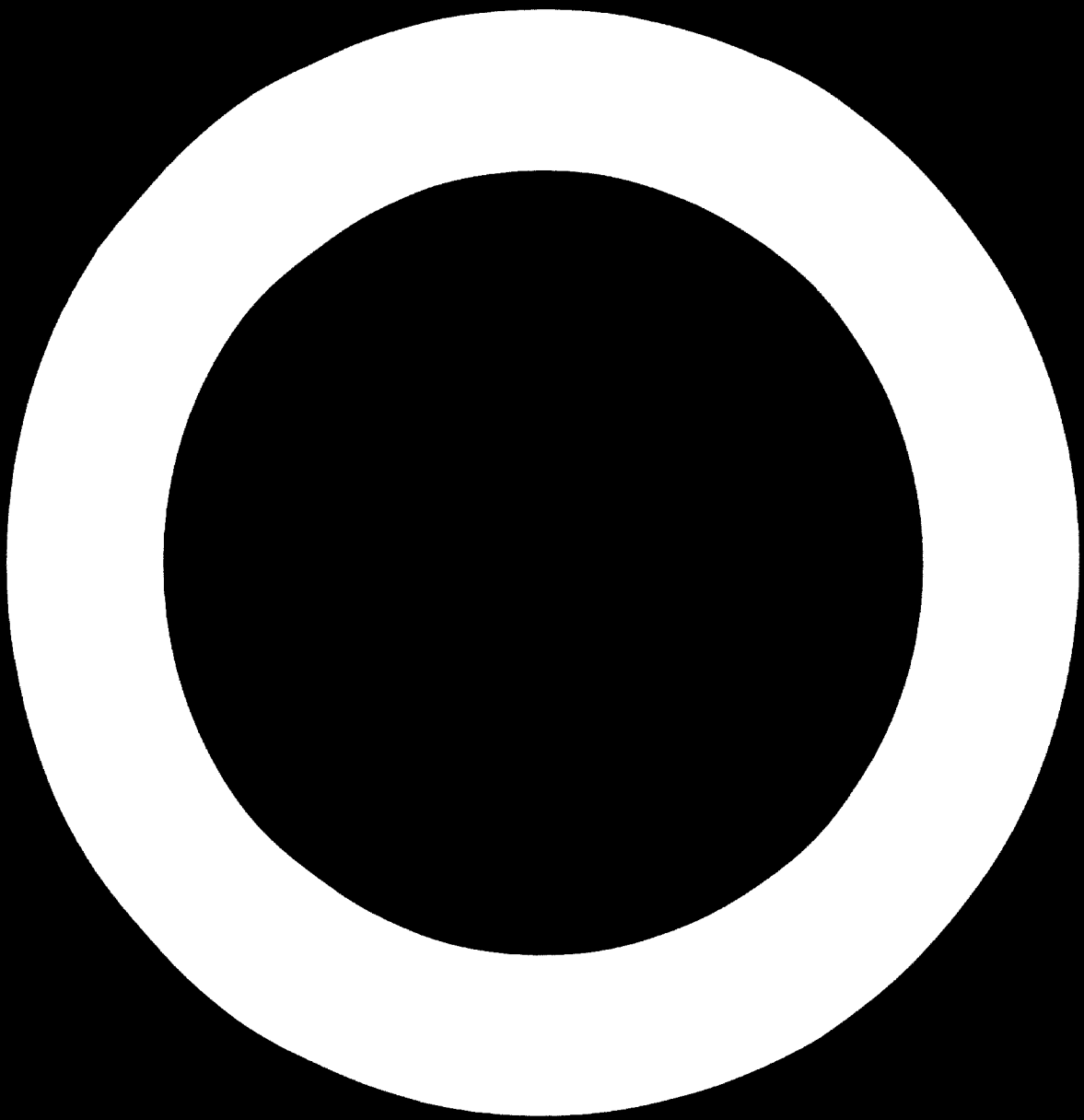
c. The shares of the recommended manufactures in the IFZITA's output have been established according to the position they have achieved in the ranking (table 13: Ranking of Labour Intensive Manufactures recommended for the IFZITA) after having conceded an exceptional share of 30% to "Clothing and Accessories" in the light of the comparatively spectacular demand the latter have evidenced, so far.

However, in line with the approach exposed above the shares of the 7 sophisticated manufactures have been slanted upwards by 15% according to a low hypothesis or alternatively by 30% according to a high hypothesis, on assumption of future enhanced growth.

TABLE 14: ASSUMED SHARES OF LABOUR-INTENSIVE MANUFACTURES IN THE IFZITA'S OUTPUT

Main Group	SIC Code	Sub-Group	Industry SIC[a] Code	Industry Description	Link between SIC & SITC	Product SITC Code	Product Description	Composite Ranking	Value Added in $ Currency, by Industry	Value Added in $ Currency, in SIC/Code Average	Employee/ Value/ Weight ratio in ($/lbs.)	Based on: IBA from LDC's % of total import	Based on: IBA from LDC's share in total USA Ind. import	Based on: IB D.C. from LDC % of total import	Based on: IB D.C. from LDC's share in total Industry import	Shares according to Present Ranking excl. "Clothing & Accessories"	Changed Shares assuming enhanced growth in Selective "Industries": Selective Industries	High Hypothesis + 10%	Low Hypothesis + 1%	High Hypothesis + 10%	Low Hypothesis + 1%
1 Clothing, Textile and Accessories	r/23	Clothing & Accessories excl. Goods of Leather and Rubber	2311	Mens & boys coats		8411	Clothing of textile fabric not knitted or crocheted		55.9												
			233	Women & misses outwear		8412	Clothing & accessories of textile fabric not knitted or croch		47.6												
			234	Women & children underwear				1	49.6	49.1	5.4	17.8	37.2	13.4	15.4	30.0				30.0	30.0
			236	Children's outwear					46.8												
			2384	Robes & dressing gowns		8414	Clothing & accessories of textile fabric knitted or crocheted		45.8												
	j/36	Electrical Apparatus and Appliances	36511	Household & automobile radio		7242	Rad[illegible] broadcast receivers	1	97.8	-	11.1	2.0	13.3	0.3	4.1	9.3	X	+2.8	+1.4	12.1	10.7
	e/39	Games, Toys, Sporting Goods and Musical Instruments	3941	Games & toys		894[1]	Toys, games & sporting goods		69.8												
			3942	Dolls				2	54.7	66.0	5.0	2.3	16.2	1.9	11.0	8.7		-2.4	-1.2	6.3	7.5
			3949	Sporting & athletic goods					73.5												
	j/36	(As above)	367	Electronic components		7293	Thermionic etc., valves & tubes, [illegible]	4	79.5	-	11.1	0.9	14.6	0.3	0.4	8.0	X	+2.4	+1.2	10.4	9.2
	s/39	Misc. Manufactures incl. Costume Jewelry Stationary & Notions	3961	Costume jewelry & costume novelties		8972	Imitation jewelry	3	62.0	-	5.2	0.5	20.7	0.2	6.7	7.4		-2.0	-1.0	5.4	6.4
2 Other Light-Manufactures Except Food	d/27	Books & Other Printed Matter	2771	Greeting-card manufacturing					78.4												
			2751	Printing except lithographic					80.7												
			2752	Printing lithographic		892[1]	Printed matter	6	73.5	78.0	6.0	0.4	7.8	0.2	0.6	6.7		-1.8	-0.9	4.9	5.8
			2753	Engraving & plate printing					79.2												
	e/30	Rubber and Plastic Products n.e.c.	30696	Rubber heels (only)					76.2												
			30697	Druggist medical sundries		6299	Articles of rubber n.e.s.		88.7												
			30698	Other rubber goods n.e.s.					88.1												
			30797	Plastic dinnerware, etc.		893	Articles of artificial plastic materials n.e.s.	7	80.7	89.9	4.5	1.4	19.6	0.4	1.9	6.0		-1.6	-0.8	4.4	5.2
			30798	Consumer & commercial plastic products n.e.s.					73.6												
	e/39	(As above)	3951	Musical instruments & parts		891[3]	Musical instruments, sound recorders, & producers & parts	8	74.3	-	7.0	0.2	3.4	0.0[illegible]	0.4	5.4	X	+1.6	+0.8	+7.0	6.2
	j/36	(As above)	3661	Telephone & Telegraph apparatus				2	101.6												
			3662	Radio, TV communication equipment		7[illegible]	Telecommunication equipment, n.e.s.		95.0	98.3	11.1	0.6	3.6	0.1	0.3	4.6	X	+1.4	+0.7	+6.0	5.3
	f/39	Jewelry & Silverware	3914	Silverware & plateware		8971	Silversmith's ware	10	96.6	-	7.0	0.1	7.0	0.2	1.1	4.0		-1.2	-0.6	2.8	3.4
	k/35	Non-electrical Machinery and Equipment	[illegible]	Computing & accounting machinery incl. cash registers		714[illegible]	Calculating machines, accounting machines, etc.	11	88.5	-	5.0	0.1	1.4	0.3	0.4	3.0	X	+0.4	+0.2	+3.4	3.2
						7143	Statistical machines														
						7[illegible]	Optics machines, n.e.s.														
	k/38	Optical Goods, Cameras, Watches and Instruments	3831	Optical instruments & lenses		8913	Binoculars (only)		96.4	-	8.0	0.1	2.1	0.1	2.5	3.0	X	+1.0	+0.5	+4.0	3.5
	[illegible]	Lighting Fixtures	[illegible]			8[illegible]	Lighting fixtures & fittings, [illegible]	18	98.4	-	3.0	0.3	14.5	0.5	7.4	1.6		-0.4	-0.2	+1.2	1.4
	j/36	(As above)																			
	i/34	Cutlery, Tools, Hardware & Other Metal Products	34211	Cutlery, scissors, shears etc.		695	Cutlery		78.7	-	2.6	0.1	3.5	0.2	3.2	1.6		-0.4	-0.2	+1.2	1.4
	h/38	(As above)	38611	Still picture equipments		8514	Photographic cameras & flashlights apparatus	13	100.0	-	7.5	0.1	8.6	0.1	1.6	0.7	X	+0.2	+0.1	+0.9	0.8
						8516	Photographic & cinematographic apparatus & equipment n.e.s.														
																Total: 100.0				100.0	100.0

Source: Table 12 above.



3. AN INCENTIVE SYSTEM FOR THE IFZITA

3.1 GENERAL

3.1.1 Objectives

The establishment of an export-oriented Industrial Free Zone at the Tocumen Airport would demand from the Government of Panama a massive promotional endeavour supported by a good image support over a good number of years — 10 years from inception. The Government's initiatives in this respect should be focussed mainly on the provision of a comprehensive incentive system which would conform with the IFZITA's natural advantages in creating a powerful nexus for the attraction of foreign-based industrialists specialized in the production of "low and medium weight / high-value" commodities and possessing world markets.

The capability of this incentive-system to induce world known firms to establish an affiliated factory in the IFZITA, either by themselves or in joint-venture with local investors, strongly depends on the coherence of the system and the co-ordinated contribution of its components to effect significant savings to the industrialists in terms of:

(1) The initial investment in fixed assets, i.e. the "sleeping capital;

(2) The production costs;

(3) The transportation costs.

It is conceded that the achievement of such objetive in the Panamanean scene-lacking cheap labour is likely to place a considerable burden on Panama's national budget. Nevertheless, their "costs" should be assessed with regard to their critical function in the IFZITA'S "take off" and subsequent prosperity and in view of the IFZITA role as

a growth pole in a country-wide export-oriented-industrialisation process.

Long-term benefits from IFZITA'S activities:

(1) The creation of new jobs and alleviation of the unemployment problems;

(2) the increase of exports and foreign exchange receipts;

(3) the acquisiton of modern skills and a general level-up of industrial techniques;

(4) the creation of new sources of income through subcontracting, etc.;

(5) the development of infra-structure networks;

are likely to exert catalytic effects on the entire economy of the country and would justify therefore, their priority and merits for considerable resources.

This does not mean, however, that attempts to rationalise the incentive-system, in getting maximum benefits for minimum sacrifice, should be neglected. Considerable guidance in this respect may be drawn from available cost benefit techniques.

Yet, the limitations, set by the competition arising from an increasing number of free zones mushrooming in various parts of the world, each launching its own packages of incentives, should not be over looked.

3.1.2 The Incentive System

A "comprehensive incentive system" includes a set of closely interrelated incentives falling into three main categories:

(1) Fiscal incentives

(2) Physical incentives

(3) Organisational incentives.

The first category is aimed to reduce the production costs, the second - to save "sleeping" capital, the third - to overcome administrative handicaps, red-tape and general inefficiency in the provision of two former incentive packages, saving thre-by waste of time and efforts which means money to the industrialist.

This is in broad lines a general "model" which should be adopted to each particular case by feeding suitable "parameters". These parameters, taking the form of monetary / timing magnitudes are designed with regard to the availabilities, shortages and other specifics pertinent to the local scene.

3.1.3 The Lessons of KEPZ and Shannon

(a) General

Prior to the design on incentive systems for the IFZITA, some lessons are derived from the experience of two examples - KEPZ in Taiwan and Shennon in Ireland-very different in features and contexts and, nevertheless, each having its own outstanding achievements.

Comparison is made between incentives provided in each with view to draw some conclusions about the impact of local conditions and exigencies in determining the kind of incentives and their magnitude.

In turn, achievements are compared with the intention to analyse the influence of incentives in the moulding of the shape and profile of each zone.

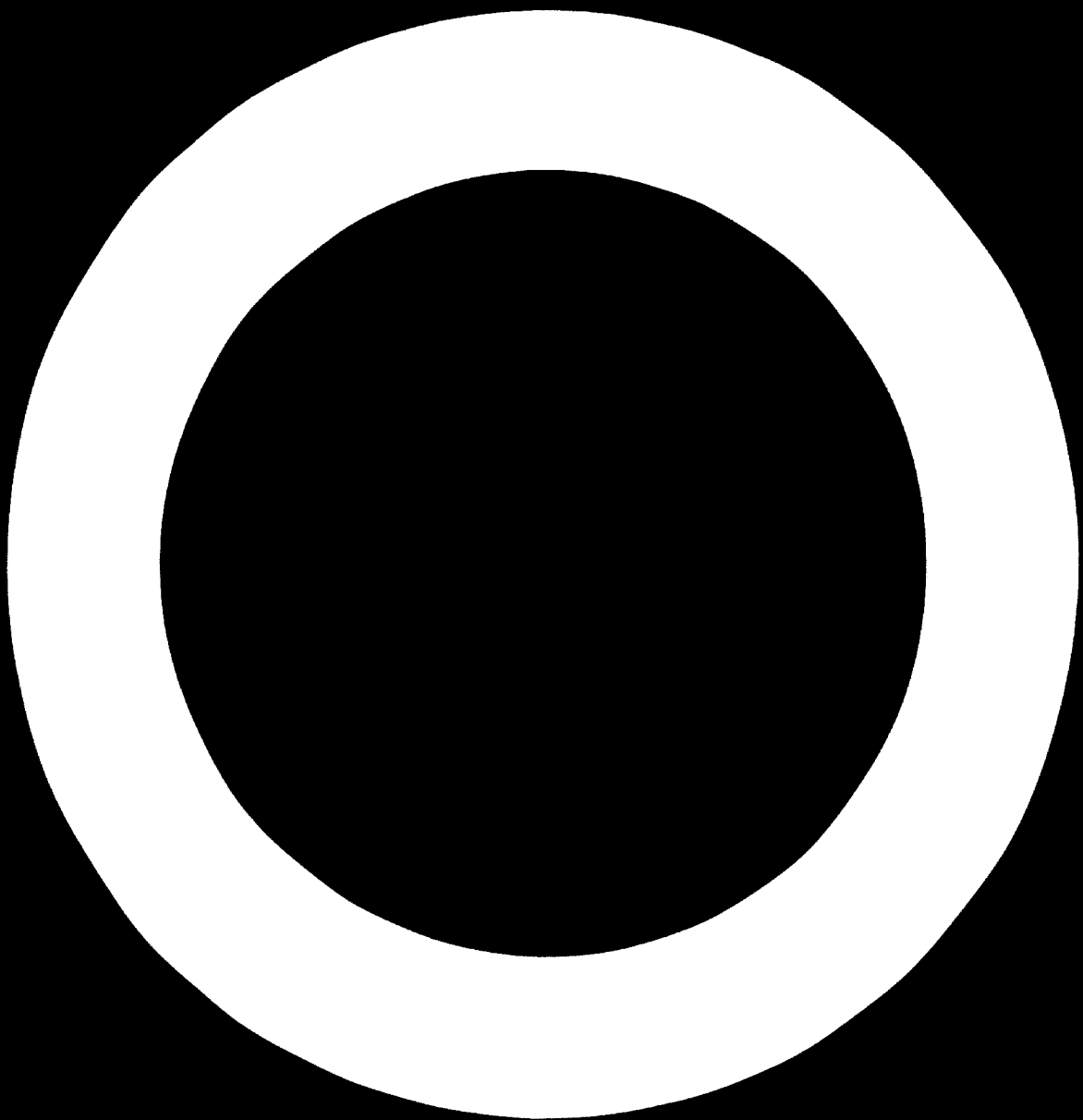
(b) Comparison of Incentives

Table 14 hereunder compares incentives provided in in KEPZ and Shannon by categories and their affiliated components:

KAOHSIUNG-TAIWAN	INCENTIVES BY CATEGORY	SHANNON-IRELAND
FISCAL INCENTIVES		
1. Exemption from import duty on. Equipment supplies, semi-finished products imported, for processing from the local market	TAX EXEMPTIONS AND TAX HOLIDAYS	1 Exemption from import duty on equipment, supplies semi-finished products imported for processing from the local market
2. Exemptions from corporate tax and business-tax on: finished products, raw material and semi-finished products for own use in the manufacture at the Industrial Free Zone		2 ?
3. Exemption from income tax or corporate tax for five years for enterprises eligible for encouragement		3 Exemption from tax on export profit for 15 years and partial relief in the subsequent 5 years decreasing from 50% to 5% of total profit. for all enterprises in the zone
4		4 Permanent duty free access to the United Market for goods manufactures in Ireland
5	CASH GRANTS	5 Non repayable cash grants towards the cost of fixed assets including sites, site development buildings new machinery and equipment 35% to 50% subject to negotiations and applicable when the fixed asset does not exceed $2.5 M
6.		6. Training grants for training of workers and possible also for management and for cost involved in hiring consults for training personnel
7.		7. Research grants for industrial research not exceeding 50% of the approved cost of a project or $50.000.00 whichever is the smaller sum arlicable to expenditure on salaries wages equipment, buildings and land.
8.	FINANCING FACILITIES	8. Financing facilities such as: Renting or leasing for hire purchase and leasing; guarantee of loans
9. Permission to remit overseas annually all net profits or interest earnings on investment. Starting from the first year of operation and also 1% of the total invested capital annually 2 years after the approved investment project. -	REPATRIATION OF PROFITS AND CAPITAL	9. Political and monetary stability and guaranteed repatriability of dividends and profits.
10. Wages lower by 70%-350% as compared with HONG KONG unskilled: $15.00 $30.00 per month skilled : $30.00 -$90.00 per month	CHEAP LABOUR	10.
PHYSICAL INCENTIVES		
1 . Power cheaper by 150% as compared with HONG KONG Low T. industrial power $0.29-0.37/KWH High " " " $0.23-0.34/"	INFRA-STRUCTURE	1.
2. Water cheaper by 150% as compared with HONG KONG $1.85-$0.725/metric ton		2.
3. Fully serviced sites including roads, power and water supply postal and telegraphic services		3. Fully serviced sites including roads power and water supply postal and telegraphic services
4. Land for individual dwelling and factories at a monthly lease of $0.[illegible]/sq.ft	SITES AND FACTORIES	4. Possibility to either purchase of build and individual factory by site of ground or rent of purchase on advance factory.
5. Pre-built standard factories at a down cost of 30% of total cost and the remainder in equal installments of the interval of 3 months over a period of 10 years bearming an interest of 10%		5. Pre built standard factories consisting office and production area and yard at a uniform rate of $ 1.08/sq. ft. or $11.6/sq. meter. Projects with obvious benefits to the national economy might not especially rent and rents.
6. A transportation and warehousing service. Operating a two storied warehouse having a total floor space of 6000 sq.m.	WAREHOUSING	6. Warehousing services
7. Common services and amenities buildings:	COMMON SERVICES BUILDINGS	7. Common services and amenities
8.	[illegible]	9. Housing for [illegible] nearby the
9.		

4		...eing of duty free ... to the British market for goods manufactured in Ireland
5		5 Non repayable cash grants towards the cost of fixed assets including sites, site development buildings new machinery and equipment 35% to 50% subject to negotiations and applicable when the fixed asset does not exceed $2.4 M
6.	CASH GRANTS	6. Training grants for training of workers and possible also for management and for cost involved in hiring consults for training personnel
7.		7. Research grants for industrial research not exceeding 50% of the approved cost of a project as $50.000.00 whichever is the smaller sum arliccable to expenditure on salaries wages equipment, buildings and land.
8.	FINANCING FACILITIES	8. Financing facilities such as: raising of loans for hire purchase and leasing; guarantee of loans
9. Permission to remit overseas annually all net profits or interest earnings on investment. Starting from the first year of operation and also 15% of the total invested capital annually 2 years after the approved investment project.	REPATRIATION OF PROFITS AND CAPITAL	9. Political and monetary stability and guaranteed remittability of dividends and profits.
10. Wages lower by 70%-350% as compared with HONG KONG unskilled: $15.00 $30.00 per month skilled : $30.00 -$50.00 per month	CHEAP LABOUR	10.
PHYSICAL INCENTIVES		
1 . Power cheaper by 150% as compared with HONG KING Low T. industrial power $0.29-0.37/KWH High " " " $0.23-0.34/"	INFRA-STRUCTURE	1.
2. Water cheaper by 150% as compared with HONG KING-$0.725/metric ton		2.
3. Fully -serviced sites including roads power and water suply postal and telegraphic services		3. Fully serviced sites including roads power and water supply postal and telegraphic services
4. Land for individual plant and factories at a monthly lease of $0.[illegible]/sq.ft	SITES AND FACTORIES	4. Possibility to either purchase of build and individual factory by aid of grant or rent of purchase an advance factory.
5. Pre-built standard factories at a down cost of 30% of total cost and the remainder in equal installments of the interval of 3 months over a period of 10 years bearning an interest of 10%		5. Pre built standard factories housing office and production space at a uniform rate of $ .68/sq. ft. or $11.6/sq. meter. Projects with obvious benefits to the national economy might get specially ready and remote.
6. A transportation and warehousing service. Operating a two storied warehouse having a total floor space of 6000 sq.m.	WAREHOUSING	6. Warehousing services
7. Common services and amenities buildings:	COMMON SERVICES BUILDINGS	7. Common services and amenities
8.	HOUSING	8. Housing for workers nearby the free zone
9.	TRAINING CENTRE	9. A highly equipped training center
ORGANIZATIONAL INCENTIVES		
1. A development authority of the own named: The "Housing Export Processing Zone administration-Kenya, organised as an agency under the juridiction of the Ministry of Economic affairs. KEPZA assist in simplyfying procedures to industrialists in respect of applications for import export licenses, for foreing exchange, tax exemption, etc.	DEVELOPMENT AUTHORITY	1. A development company i the Shannon free airport Development Company LTD-SHADCO act as an Agent of the industrial development authority IDA.deming to the ministries of transport and Power Industry and Commerce, and Finance. It possesses funds for the construction of the industrial estate, for the provision of housing, for the development of the airport, for the payment of grants and all the running expenses . It is empowered for the licensing of firms and for providing for a special period of tax exemption. Throught these capacities SHADCO assits in simplifying and expediting procedures to the industrialists.

SOURCES: (1) APO Dessiminations of knowledge series No. 17, march 1967
(2) FACTS-Industrial Ireland today/IDA Ireland



Findings

(1) Shannon has provided a more powerful and inducive package of incentives

(2) Fiscal incentives in Shannon are far more numerous and varied than in KEPZ:

In Shannon full tax-holiday (100%) on export profits are provided to any new manufacturing enterprise for 15 years, succeeded by a partial decreasing relief (80% - 15%) for the 5 subsequent years. In KEPZ a full tax holiday on export profits is provided only in specific cases and for a period no longer than five years.

Non repayable cash grants for fixed assets on training of workers and industrial research provided in Shanon are thoroughly missing in KEPZ.

Financing facilities in the form of loans and subsidies on interest are also available only in Shannon.

On the other hand KEPZ offers a remarkably cheap labour force while scale of wages in Shannon is considerably high.

(3) A greater degree of similarity is found between the physical incentives provided in each of the zones in question.

Both provided the complete range of infra-structure and utility networks; pre-built factory buildings ready to occupy, or alternatively pre levelled lots for the erection of individually-designed plants; transportation and warehousing services. Nevertheless, Shannon retains comparative advantage in this category too by providing, in addition to all the above, housing for workers and highly-equipped training Center.

(4) The greatest similarity appears in the organisational incentives:

Development authorities are set-up in both and, however different in their rank and managerial structure, they both act as governmental agents and possess the necessary powers and funds for screening of enterprises for providing fiscal and physical incentives described in Table-1 and for simplifying and expediting procedures. In conclusion, it appears that Shannon by virtue of its association with an airport and the consequent necessity of looking for low weight/high value types of manufactures as well as by the unavailability of cheap labour, has turned towards capital intensive industries requiring large proportions of skilled labour. This has resulted in the necessity to provide a fairly extensive range of fiscal incentives to back such an ambitious programme.

(e) Comparison of profiles and achievements

A profile/achievement of KEPZ and Shannon is produced in Table-2 hereunder by comparing the following factors:

(1) date of establishment;

(2) No of manufacturing enterprises by origin of investment;

(3) capital investment in the manufacturing enterprises; investment/enterprise and investment/employee ratios;

(4) employees and wages in the manufacturing enterprises and employee/enterprise ratio;

(5) value of export-sales and its share in the country's total export.

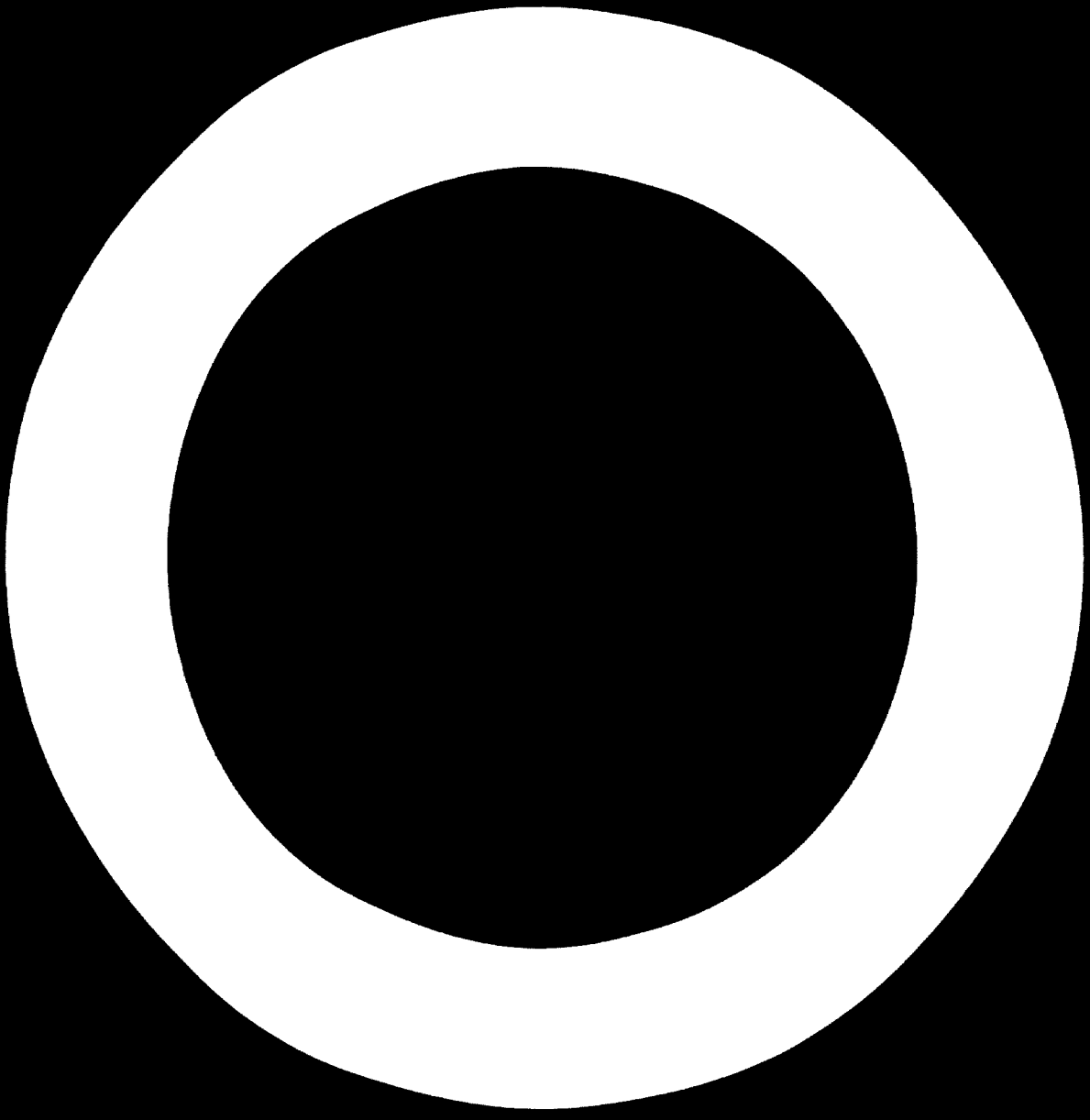


TABLE 16: COMPARATIVE PROFILES AND ACHIEVEMENTS IN:

Kaohsiung Export Processing Zone (KEPZ) and Shannon Industrial Free Airport Zone

Kaohsiung Export Processing Zone (KEPZ) TAIWAN						FACTORS	SHANNON & FREE ZONE IRELAND					
1965						Date of Establishment	1958					
Total 52	Domestic 14	Foreign-based 38	Share of foreign-based % 73			No of manufacturing enterprises by origin of investment(1)	Total 34	Domestic 11	Foreign-based 23	Share of foreign-based(%) 70		
Total (millions $) 10.6	Domestic (millions $) 2.1	Foreign-based (millions $) 7.5	Share of foreign-based % 80	Average investment per enterprise $ 208,000	Average investment per employee $ 620.	Capital Investment in manufacturing enterprises ($'000)(2)	Total (millions-$) 26.8	Domestic (millions-$) 9.3	Foreign-based (millions-$) 19.5	Share of foreign-based % 68	Average investment per enterprise($) $47,000	Average investment per employee ($) $ 8,000
Total number of employees 12,935	Average number of employees per enterprise 300	Annual wage-bill (millions-$) 5.6	Average annual per employee($) 360	Average monthly wage per employee ($) 30		Employees' wages in manufacturing enterprises ($'000)(3)	Total number of Employees 3,844	Average no. of employees per enterprise 93	Annual wage-bill (millions-$) 4.1	Average annual wage bill per employee($) 1,257	Average monthly wage bill per employee($) 105	
Total (millions-$) 75.7	Average export sales per enterprise (million-$) 1.4					Export sales U.S.-$ ('000)(4)	Total (millions-$) 86.5	By surface freight (millions-$) 10.9	By-air-freight (millions-$) 99.6	Share of air-freight % 84	Average export sales per enterprise (millions-$) 3.0	

SOURCES: Elaborations based on:

UNIDO - Dissemination of knowledge series No 17 March 1967 (FOR KAOHSIUNG)
Shannon Free Airport Development Company Ltd. - Facts About Shannon year ended March 1967. (FOR SHANNON)

(1) DATA ON SHANNON & KAOHSIUNG FOR THE YEAR 1966
(2) " " " " " " " "
(3) " " " " " " " "
(4) " " " " " " " "

[illegible] CONSIDERATIONS AND PROPOSALS RE:

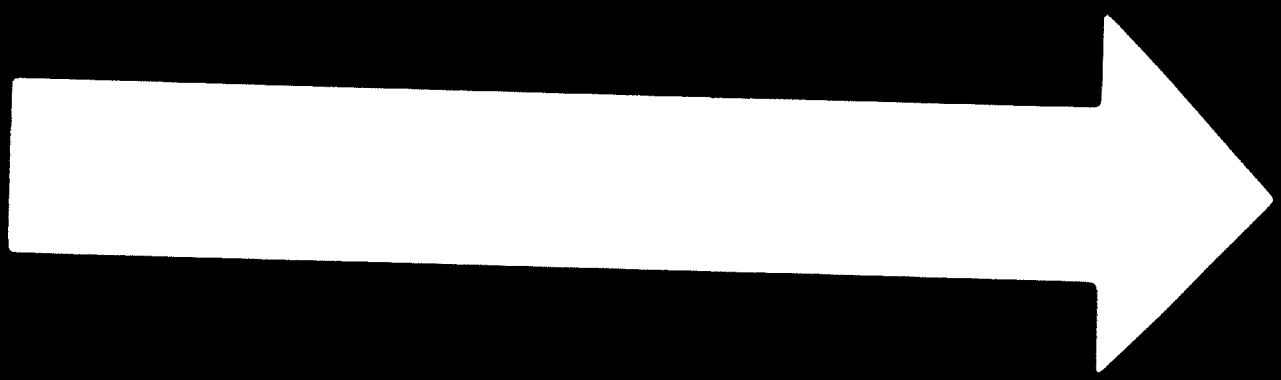
Kou Hsiung Export Processing Zone (KEPZ) and Shannon Industrial Free Airport Zone

Kaohsiung Export Processing Zone (KEPZ) TAIWAN						FACTORS	SHANNON INDUSTRIAL FREE ZONE IRELAND					
1969						Date of Establishment	1958					
Total 48	Domestic n.a.	Foreign-based n.a.	Share of foreign-based (%) 50			No. of manufacturing enterprises by origin of investment	Total 47	Domestic 17	Foreign-based 30	Share of foreign-based (%) 63		
Total (millions-$) 29.5	Domestic (millions-$) n.a	Foreign-based (millions-$) n.a	Share of foreign-based n.a	Average investment per enterprise $ 615,000	Average investment per employee- $ 4,875	Capital Investment in manufacturing enterprises (%)	Total (millions-$) 68.5	Domestic (millions-$) 23.5	Foreign-based (millions-$) 45.0	Share of foreign-based (%) 64	Average investment per enterprise (millions-$) 4.4	
Total number of employees 12,044	Average number of employees per enterprise 256	Annual wage-bill (millions-$) 12.2	Average annual wages per employee ($) 360	Average monthly earn per employee ($) 30		Employees wages in manufacturing enterprises-$ (%)	Total number of Employees 4,046	Average no. of employees per enterprise 86	Annual wage-bill (millions-$) 44.5	Average annual wage bill per employee ($) 8,975	Average monthly wage bill per employee ($) 843	
Total (millions-$) 136.9	Average export sales per enterprise (million-$) 4.6					Export - Sales U.S.-$ (%)	Total (millions-$) 84.8	By surface freight-$ (millions-$) 9.8	By-air-freight (millions-$) 73.0	Share of air-freight % 88	Average export sales per enterprise (millions-$) 1.8	

SOURCES: Elaborations based on:

APO - Dissemination of Knowledge series No 17 March 1967 (FOR KAOHSIUNG)
Shannon Free Airport Development Company Ltd. - Annual report 1971/72 . (FOR SHANNON)

(1) DATA ON SHANNON FOR THE YEAR 1970 ; ON KAOHSIUNG FOR THE YEAR 1970
(2) " " " " " " " " " " " " " "
(3) " " " " " " " " " " " " " "
(4) " " " " " " 1971) " " " " " " "
(5) REVENUES ON - KAOHSIUNG - FOR THE YEAR 1970
BASED ON $ 1.40 AVERAGE RATE/MONTH/EMPLOYEE



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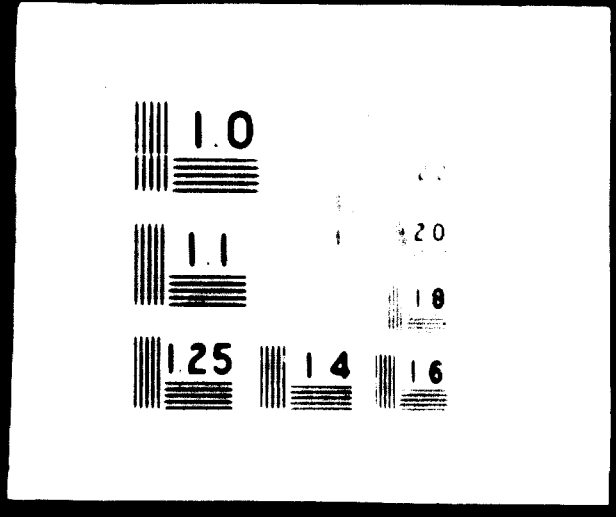

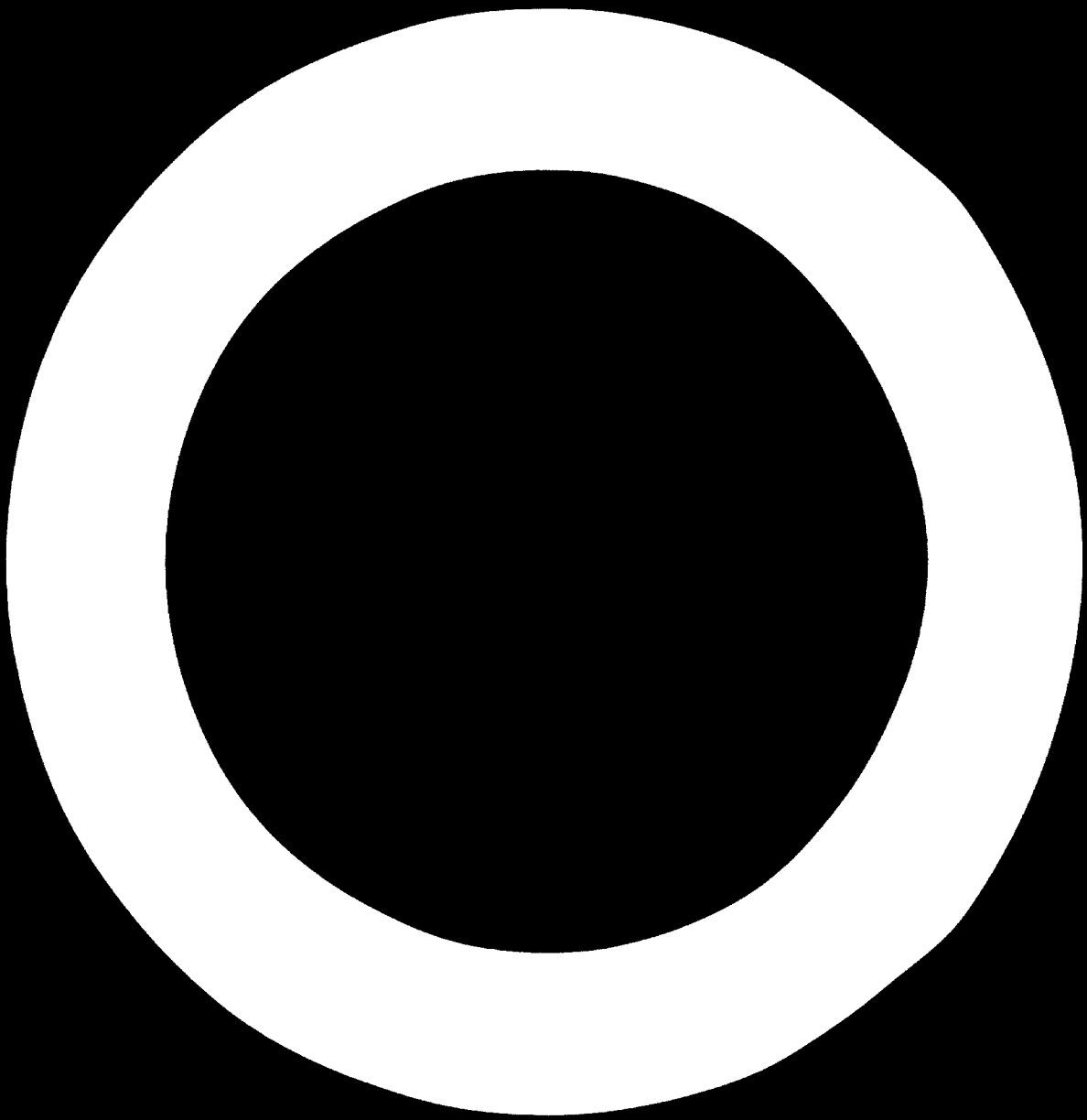

Findings:

KEPZ and Shannon exhibit disparities in profile and yet similarities in final achievements:

(1) Disparities:

-KEPZ is an emerging sea-port free-zone having by now 6 years of experience (the latest data available is however for 1966-1967) while Shannon is well established air-port free-zone existing for over 14 years.

-KEPZ interprises are labour-intensive while those of Shannon are relatively capital-intensive, with:

An average of 300 employee per enterprise in KEPZ
versus
" " " 93 " " " " Shannon

" " " $208,000 investment " " KEPZ
versus
" " " $847,000 " " " Shannon

" " " $620.00 " job " KEPZ
versus
" " " $8,800.00 " job " Shannon

i.e. Enterprises in Shannon have on the average 3 times less workers 4 times more total capital investment and 13 times more capital investment per job.

-Shannon has succeeded to attract a three times larger total capital investment as well as three times larger foreign-based capital.

-Wages in Shannon are three times higher.

(2) Similarities;

- Both zones have attracted foreign capital with a share ranging from 70% to 80% in their total investment
- Both have produced a similar value of export sales.

In conclusion, production costs are higher in Shannon as compared with KEPZ. The former's investment/export ratio being 3:1 whereas the latter's parallel is 7:1.

Even if taking into account possibly cheaper transportation costs in Shannon, due to proximity to markets and savings effected by air freight, it still appears that the States'support through incentives and other forms of actual investment has been of critical importance.

The data below produces further evidence to the above argument:

The Government's share:	$ in million
- in the total investment in the F. Z	59% (31.)
- in the total investment in the industrial estate	34% (11.)
- in the total investment in housing	96% (6.)
- in the total investment in air facilities	81% (14.)

(d) Factors determining the rapid industrialization of Ireland and its economic growth

Ireland has experienced in the past decade an accelerated industrialization process resulting in a rapid economic growth.

In the 1960's over 500 new manufacturing industries were set up involving an investment of over $300 million; 350 of these firms were foreign based.

Industrial exports increased 6 times in value-from $84 million in 1960 to $508 million in 1970. The average annual increase for the decade has been 18% which ranged among the highest increases recorded in Europe for the period.

Industrial exports constitute today 59% of the countries total export, the share of Shannon therein being 18%.

The share of industry in the Gross National Product has increased from 30% in 1959 to 35% in 1969.

The average annual growth rate in industry for the decade was 7% whereas that of the economy - 4%.

Finally the GNP has increased by 275% from $1,442 - million in 1958 to $3,955 million in 1970.

Even now, in the face of the current political turmoil industrial development is moving in high gear in the 26 counties of the Republic. Some 78 new manufacturing ventures have been initiated in the 1971-72 fiscal year, 16 of which are U.S. operations.

Rapid growth is not the only feature of Ireland industrial development. It enjoys also a remarkable degree of stability which is of equal appeal to new manufactures. A research led by Dermat & Mc Aleese

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Facts based on:

"Facts-Industrial Ireland today/IDA - Ireland

"American Machinist" March 6, 1972

IDA - Industrial Development Authority (Ireland)

of Ireland's social and Economic Research Institute, reveals that failure rates have been quite low and only 11% of enterprises, established since 1952, appear to have failed. Moreover, the percentage of complete failures is as low as 6% for the other 5% have in fact continued to operate under new managements.

This outstanding success should be appreciated in the light of the fact that labour in Ireland is not cheap, that wages are continuosly increasing and are on a par with those in England and, that the labour market is strongly Unionised.

It appears that the major determinants of sucess have been the following:

(1) The most generous package of incentives provided by the Government, (see Table 14, which has been Justifyably considered as the "most inducive package of investment-incentives in the world";

(2) The wide range of varied skills engendered on the market by the IDA" training centrs;

(3) The highly sophisticated cautious research/ selection/negociation criteria used by IDA in evaluating prospective candidates and determining priorities:
- the growth capacity of a project;
- its ability in linking up with existing and projected new industries;
- its potential of creating long-term job-opportunities;

- a high proportion for male employment;
- a high proportion of jobs for skilled labour;
- Its ability to contribute to the viability and competitiveness of manufacturing industries;
- the degree of autonomy the Irish based plant will be granted by its overseas parent firm.

Panama, which is at the first phase of its industrialisation process and on the thresholds of export-oriented-manufacturing, can largely benefit from the Irish example and experience.

3.2 AN INCENTIVE SYSTEM FOR THE IFZITA

3.2.1 General

Some analogies can be drawn between the IFZITA and the Shannon Free-Zone:

(1) convenient location as an export base;

(2) situation within an airport;

(3) Necessity to produce low and/or medium weight/high value commodities;

(4) inavailability of very cheap labour (in practice in some of other Less Developed Countries);

Moreover the IFZITA has to face a wider range of problems in having to operate in a considerably less favourable economic context-if compared with the prevailing conditions in Ireland (see above, item 3.1.3(d)

The Panamanean economic scene exhibits to day:

(1) Unemployment with concentration in Panama City;

(2) deficiency of skilled labour required for export-oriented manufacturing;

(3) medium rates of productivity in relation to total wages.

(5) lack of tradition and climate for export-oriented - manufacturing

The IFZITA would require therefore not only a package of incentives as extensive and inducive as the one provided in the Shannon Free Zone but also some additional extensive means aimed at a restructure of the labour market and the initiation of development oriented to exports.

The Government's efforts will have, at this juncture to focus on two major operations:

(1) Attraction, via incentives and intensive promotional activities, foreign well-established manufactures possessing a tri-dimentional set of attributes:

- Labour-Intensive — to maximize job opportunities
- specialized in the production of Low and Medium Weight/ High Value commodities — to optimize transportation costs
- featured by Medium and and Low Value Added per Employee (below U.S. average) — to optimize production costs

(2) Restructuring, via an extensive training programme the labour market in terms of proportions of skilled/unskilled labour, and particularly the ratios of: wages/level of productivity.

3.2.2 The Incentive Systems Recommended for IFZITA

(a)General The incentive system recommended for the IFZITA falls into three main categories:

Fiscal, Physical and Organizational.

(b) Fiscal Incentives (table 16 below)

Fiscal incentives include the following components:

a) Tax-exemption and tax-holidays
b) Cash grants
c) Financing facilities
d) Repatriation of profits and capital
e) Guarantee against nationalization of capital and property.

In defining the magnitude of the above incentives the following should be borne in mind:

1) Generous incentives pay back and justify themselves for the long and even the short term both in respect of the IFZITA and the Republic of Panama as a whole.
The experience of Shannon, may serve as best example.

2) The alternative parameters of the incentive-components should be negociable while favouring certain types of manufacture considered capable to maximize outputs,
i.e. products possessing the following qualifications:
- non-sophisticated for the 1st phase (see table 13A)
- sophisticated for the 2nd phase (see table 13B)
- Medium Weight/Medium & High Value ratio for the 1st phase (see table 13A)
- Low Weight/High Value for the 2nd phase (see table 13B)

- potential for creating long-term job-opportunities
- potential for growth and expansion;
- forward/backward linkages with existing or projected manufactures in the zone.

(c) Physical incentives (table 17 below)

Physical incentives include the following components:

(1) Provision of infra-structure;

(2) provision of pre-levelled site for individually-built and building inclusive for pre-built standard factories;

(3) provision of common-services and amenities buildings within the Zone.

These incentives are provided equally to all enterprises with the intention of allowing all coming-in industrialists to go into production without delay while saving them the difficulties of starting from scratch and the time-consuming stages of planning and building.

Common buildings and services are provided both to assist in the efficient operation of the zone as well as an additional tempting element.

(d) Organizational Incentives (table 18 below)

Organizational incentives include two components:

(1) The establishment of a development authority;

(2) housing the branch-offices of supporting agencies in the same administration building within the zone and under the same direction.

The IFZITA Development Authority should act as the agent of the Ministry of Commerce and Industry, the Ministry of Finance and Treasury, and the Ministry of Planning and Economic Policy. It has to be provided with the required powers for autonomous decision-making and for raising the necessary funds for provision of the fiscal and physical incentives, mentioned above.

The development authority should act also as a liaison capacity with Direccion General Aeronautica Civil ministries and governmental offices.

(d) Detailed tabulations

Tables 17, 18 and 19 hereunder present detailed lists of the recommended incentives.

TABLE 17 : FISCAL INCENTIVES RECOMMENDED FOR THE IFZITA

COMPOUNDS	DESCRIPTION OF INCENTIVES	SHARE IN TOTAL INVESTMENT (%)	PERIOD LIMITS (YEARS)	SPECIFICS
TAX EXEMPTIONS	Duty-free import.	100	-	On machinery, equipment, supplies, semi-finished products imported from the local market (from abroad is obvious-as being a free zone).
	Income tax exemption on capital gain.	100	-	-
	Income tax holiday on net profits from export.	100 40 15	First 15 years Subsequent 5 years.	-
CASH GRANTS	Non repayable cash grants on the costs of fixed assets.	Up to 35 (negociable)		On sites, site development, buildings, new machinery and equipment, percentage according to the merits of the project and if fixed assets do not exceed an average investment/job ratio not to exceed: at the first phase : $ 2000 at the second phase: $ 4000 The maximum of 35% is granted: At the first phase: to manufactures numbered 1,3,4,6,7,10,12 in table 13A:"Recommended Manufactures for first phase of IPZITA's implementation", or conceded to be similar by the IPZITA AUTHORITY Board of Directors, and featured, in addition, by the following characteristics: (a) potential for creating long-term job opportunities; (b) forward/backward linkages with existing or projected manufactures in the Zone; (c) intending to start operations as soon as possible; (d) likely to use modern techniques; (e) likely to generate large values of exports; (f) likely to have growth-potential; (g) likely to generate maximum multiplier effects on the country's economy. At the second phase: to manufactures numbered 2,5,8,9,11,13 in table 13A: "Recommended Manufactures for second phase of IPZITA's implementation", or conceded to be similar, by IPZITA AUTHORITY Board of Directors, and featured, in addition, by the following characteristics: (a) as in first phase (b) " " " " (c) " " " " (d) " " " " (e) " " " " (f) " " " " (g) " " " " The grant is repayable if an enterprise is closed down within ten years after completion of grant payments.
	Non repayable training grants	100	-	For training of workers and management as well as costs involved in living,ing consultants and training personnel from abroad.
REPATRIATION OF PROFITS & CAPITAL	Repatriation of net profits	100	-	From end of first year of operation.
	Repatriation of capital		-	15% annually from first year of operation.
FINANCING FACILITIES	Loans-repayable would be granted to 30% lower than those obtained in the finance market, negotiable		3	For rent of standard factory buildings.
			10	For construction of individually [illegible] for usage of working capital.
	Reduced tariffs on usage of utilities		3	
	Reduced charges for common services warehousing and daretransportation services		3	

Sources:

(2) In line with conditions for cash-grants as above.

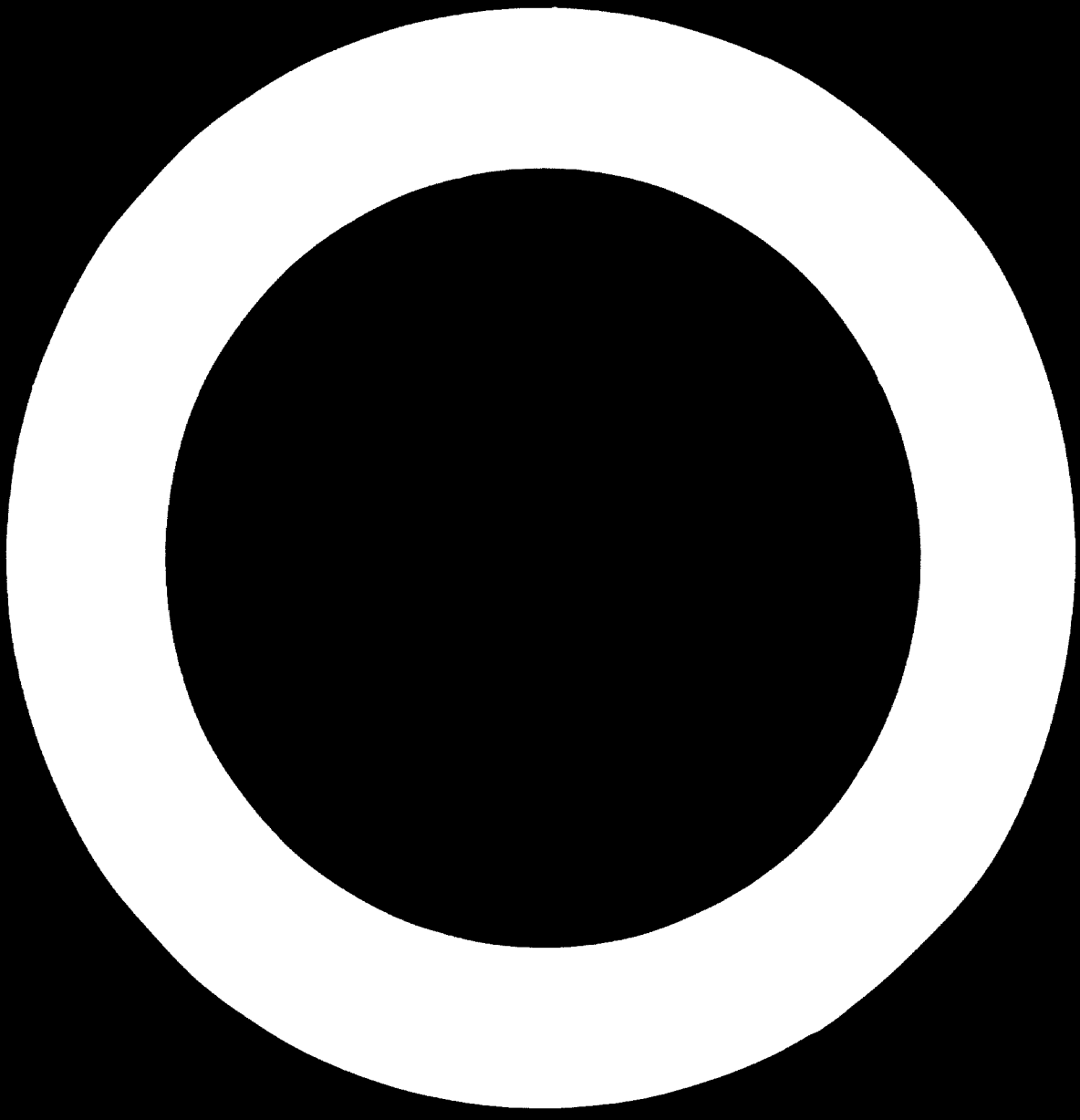


TABLE 18 - PHYSICAL INCENTIVES RECOMMENDED FOR THE IFZITA

COMPONENT	DESCRIPTION OF INCENTIVES	CHARGE TARIF OR RENT-IN B/.(1)	SPECIFICS
INFRA-STRUCTURE AND UTILITIES	Roads and parking	Reduction on tariffs for the first 5 years	
	Power	-25% per/KWH	Low-tension industrial power High
	Water	-25% per/meter cube	
SITES AND FACTORIES	Pre-levelled Lots	Monthly rent-B/.Sq.m. -...off non profit rate.	For individually designed factories
	Pre-built Standard Factories	... and instalments -Reduction on tarif ...off non profit rate.	For purchase through cash grants For rent through financing facilitie
SERVICES COMMON-SERVICES AMENITIES	-Warehousing & transportation services & -machines & parts repair shop -maintenance-shop -post & telegraph -banks -first-aid station -retrol-station -fire-brigade -police & guard station amenities: -canteen -cafeteria-restaurant -super-market & small department store -recreation & sport grounds		

(1) Reduction effective for the first 5 years such incentives-of minor investment value- have a major psychological effect in the promotional activities.

TABLE 19 - ORGANIZATIONAL INCENTIVES RECOMMENDED FOR THE IFZITA

COMPONENT	DESCRIPTION OF INCENTIVE	SPECIFICS
ESTABLISHMENT OF A DEVELOPMENT AUTHORITY	Expeditiousness of decision making and simplification of various administrative procedures.	- Promotion and contacts with industrialists abroad - Screening of applications - Negociations with industrialists - Approval of tax exemptions - Provisions of cash grants, loans, etc. - Issuance and endorsement of export licences and import licences from local market (if needed) - Aproval of factory building plans individually designed. - Proceed with development works and infra-structure. - Proceed with the pre-built standard factory buildings. - Liase with the airport authorities - Liase with other governmental offices & ministries
ESTABLISHMENT OF BRANCH OFFICES OF SUPPORTING-AGENCIES WITHIN THE ZONE	Efficiency of operations	- Custom authorities - Tax authorities - Employment services - National bank - Post and telecomunication offices

4. A MANAGEMENT STRUCTURE FOR THE IPZITA

4.1. GENERAL

4.1.1 The Role of Development Authorities for Industrial Free Zones

Examples over the world have indicated that Industrial estates would require a Development Authority of their own in order to achieve efficient management and stability in growth.

The need for a Development Authority gains further emphasis in the case of export-oriented Industrial Free Zones which, by virtue of their functions and their linkages with a varied range of overseas economies, normally exhibit a most complex pattern of activities.

The experience accumulated so far on the administration of Industrial Free Zones appears to certify that their Development Authorities, whether functioning under centralized or decentralized systems, have largely contributed to the progress of the Zone and have in fact played a most important role in the "take-off" and incremental growth.

It is obvious, that a Development Authority should be established for the IPZITA to take up both its promotion and management further on.

4.1.2 Functions and responsibilities of Development Authorities for Industrial Free Zones

(a) **General** — The wide range of function and responsibilities to be undertaken by an Authority of an Industrial Free Zone can be classified into the seven following groups:

(1) Industrial promotion;
(2) Planning and construction;
(3) Management and maintenance of fixed assets;
(4) Control and management of operations;
(5) Promotion of foreign trade and control of foreign exchange;
(6) Provision of services and facilities;
(7) Publicity and public relations.

(b) **Industrial Promotion** — The group should include the following activities:

(1) Determining of optimal manufactures for the Zone in conformity with the government goals and policies and the local factors;
(2) Negotiation with Candidates;
(3) Establishment agreements;
(4) Provision of fiscal and physical incentives;
(5) Promotion of industrial research;
(6) Running of an intelligence unit providing any information related to the zone and the economy, achievements of the zone labour availability training facilities, transportation facilities, types of incentives, financial matters.

c) Planning and Construction

This group should include the following activities:

(1) Preparation of a physical plan for the zone, comprising:
- plans for infrastructure and utilities networks,
- plans for earth and land scaping;
- plans for standard factories, warehouses and common services buildings.

(2) Setting of a phasing program for implementation;

(3) Construction of the Zone according to plans.

d) Management and maintenance of fixed assets

This group should include the following activities:

(1) Maintenance of buildings and road networks;

(2) Collection of rental and services charges;

(3) Management of revenues deriving from Government properties;

(4) Application of control to secure adherence to tenancy restrictive covenants and preparation of control accounts;

(5) Examination and approval of plans and proposals for alterations or expansion of factories, siting of advertisements and signboards;

(6) Issuance of construction permits;

(7) Handling of industrial and business registration.

e) Control and Management of operation

This group should include the following activities:

(1) Inspection of products and issuance of licenses and certificates;

(2) Endorsement in respect of import and export goods;

(3) Control of installations effluent and waste disposals;

(4) Control physical working conditions;

(5) Control of labor relations.

f) Foreign trade and exchange

The group should include the following activities:

(1) Promotion of foreign trade;

(2) Issuance of import/export licenses

(3) Establishment of regulation for foreign exchange.

g) Services and facilities

This group would include the following activities:

(1) Tax exemtions;

(2) Actual provision of grants, loans and subsidies; etc.;

(3) Provision of common services such as: warehousing, and transportation services, repair and maintenance shop, training center, firebrigade etc.;

(4) Provision of a transport service and internal shuttle service for workers;

(5) Provision of housing for workers (where relevant);

(6) Liaison with various agencies organization government offices etc., and particulary with those housed in the Free Zone Administration.

(h) Publicity and public relations

This group should include the following activities:

Advertise the Zone through various communication media: The press, telecommunication services, brochures, etc. Initiate and maintain contacts with industrial firms all over the world.

3.1.3. The examples of KEPZA and SFAIC *

(a) General

The management structure of an Industrial Free Zone Development Authority is generally shaped by the following factors:

(1) Size of the zone and magnitude of overall value of production;
(2) Kind of activity and complexity of operation;
(3) Extent of incentives, services and facilities provided by the Government through the authority to industrialists settling in the Zone;
(4) Economic climate and level of industrialization of the country.

The Management Structure for the Trade Development Authority proposed hereunder, has taken account of the above factors while drawing also considerable guidance from the Management Structures of KEPZA and SFAIC which, however, different seem to represent successful models.

(b) KEPZA Management structure **

The KEPZA was formally organized in 1966 as an agency under the jurisdiction of the Ministry of Economic Affairs.

It operates under the direction of one Director and one Deputy Director.

It comprises the following operational Divisions, and six assisting offices:

Operational Divisions:

(1) Industrial Promotion:
Involved mainly in attracting and establishing new manufactures.

(2) Foreign exchange and trade:
Responsible mainly for promotion of foreign trade, finished products, export operations and related formalities.

(3) Management of properties and control of working conditions and relations:
In charge of the maintenance and revenues of public properties, inspection of working conditions in factories and labour relations.

(4) Internal Management:
Taking care of the Authority's own staff and assets.

Offices: Personnel, Accounting, Engineering, Research Security and Secretarial.

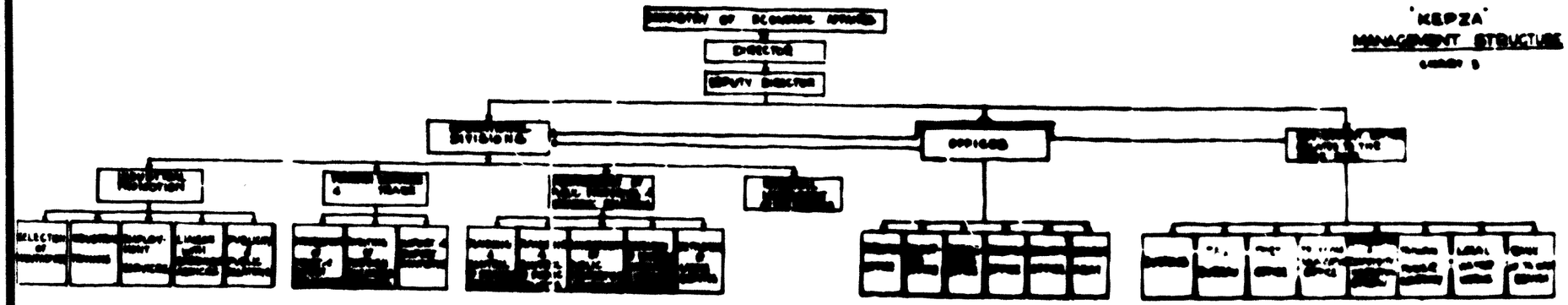
Government Offices:

Government offices related to the KEPZA operations have set up offices in the KEPZA office building to operate as supporting agencies under the direction and supervision of the KEPZA, these include:
The Customs, the tax Bureau, the Post Office, the Telecommunication Office, the Commodity Inspection Bureau, the Power Company, the Local Water Works, the Bank of Taiwan, sub-branch.

See Chart 3 (page 86).

* Kaohsiung Export Processing Zone Administration - KEPZA
** Shannon Free Airport Development Company - SFADCO
[illegible] A.I.D. Discussion of Regulation Memo No. 17, March 1967.

'KEPZA'
MANAGEMENT STRUCTURE



SFADCO* Management structure

SFADCO LTD., existing for about 14 years, is a private limited liability company established under the Companies Act, owned and ultimately controlled by its shareholders - the ministers of Transport and Power, of Industry and Commerce and of Finance.

The Board of Directors consists of six members including a chairman, this board works on a part time basis and is responsible for establishing general policies and strategies and the main courses of action to be taken in their respect.

The Board policies are implemented by an executive body - a permanent staff - comprising three Operational Divisions headed by the General Manager who is the chief executive and answerable to the Board of Directors.

The three operational divisions are the following:

(1) Planning and Promotion:
This division is the most important of the three and is involved in preparing the physical plans for the Zone, developing methods for attraction of investment; selecting appropriate enterprises and negotiating with candidates, assigning monetary values and time scales to incentives in respect of each enterprise; developing advanced publicity and advertising.

(2) Physical Resources:
In charge of construction, maintenance and management of fixed assets.

(3) Finance and Administration:
Providing payments due as fiscal incentives, financial advice in matters of tax exemptions, loans, subsidies, reduced charges, foreign exchange etc., and looking after the authority's own staff.

These three divisions also co-operate in providing ready expertise to coming-in industrialists on labour relations, availability and wages; on training arrangements; on factory construction and on housing availabilities.

In addition, SFADCO have the possibility of drawing on the following government agencies for further specialist advice and assistance:

(1) **The IDA****
Is responsible for the Irish initial industrialization programme.

(2) **The Industrial Training Authority**
A government-sponsored body responsible for raising the skills of the Irish labour, establishment of training centres, one of them in Shannon.

(3) **Customs and Excise Service**
Whose co-operation can ensure smooth arrangements for imports and exports

(4) **The Irish Export Promotion Board**

(5) **The Institute for Industrial Research and Standards**

(6) **The Industrial Credit Company**

(7) **The National Building Agency**

The most important attribute of SFADCO is its autonomous decision-making power coupled with means and funds to carry out these decisions.
A number of legislature acts have empowered the Ministry of Finance to provide the Authority with capital for the construction of the Zone and the proxime New Town; and the Ministry of Transport and power to provide for grants and running expenses. Other acts of legislation have streamlined procedures related to licensing of firms and tax exemptions.

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* **Summarised from: Organization for the management and promotion of an Industrial Free Zone**

** **Industrial Development Authority**

The relatively broad autonomy of SFADCO does not deter its operations to keep in line with national plans and programmes due to the supervision exerted by the Ministries through their representatives in the Board of Directors and also due to the close co-ordination and adaption to IDA programmes.

In conclusion experience seems to evidence that this type of organization has achieved a reasonable balance between the flexibility required for rapid operation and the rigidity needed to avoid conflicts with national programmes.

On the whole it appears to have succeeded to create a type of environment and an industrial atmosphere capable of perpetuating development and success.

(c) Conclusions

The significant differences between the KEPZA and SFADCO management structures li mainly in their formal status and their top management.
SFADCO has the status of a private company and is headed by a Board of Directors, representing three Ministries, and is delegated with powers for autonomous decision-making and design of policies and strategies.

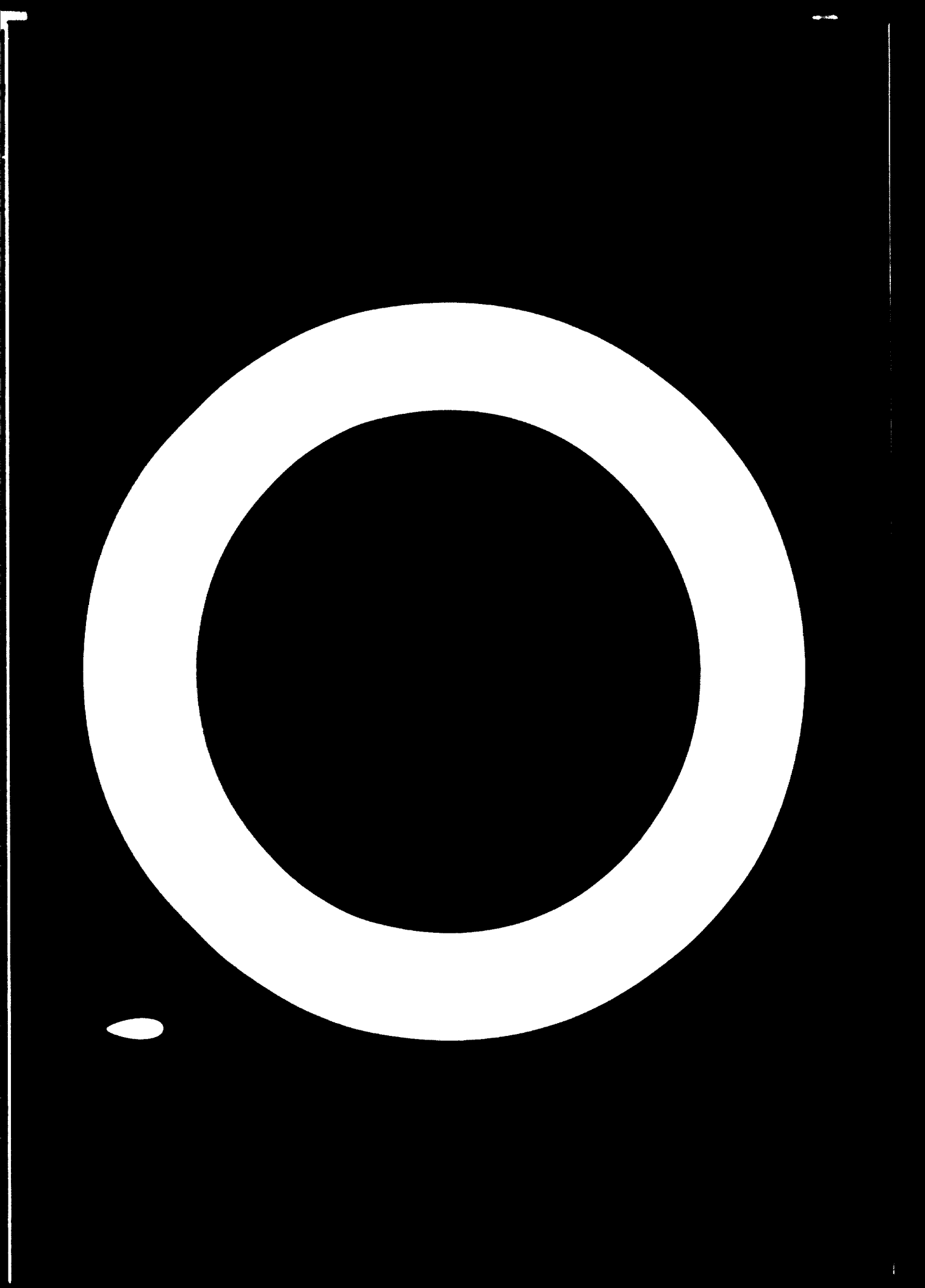
KEPZA has the status of a public authority whose director is directly subordinate to one Ministry. Consequently KEPZA largely depends on its tutor ministry for design of major policies and strategies and for taking decisions regarding crucial issues.
Its own decision-making capacity is quite limited and is restricted to routine day-to-day matters only. In the main, it performs as an executive body to the Ministry.

SFADCO therefore, appears to have relative advantages over KEPZA. Its autonomou powers - the source of its "drive", initiative and efficiency - do not deter fro catering for a wider spectrum of interests pertaining to each of the ministries represented on its Board and from co-ordinating its plans with those of the IDA.

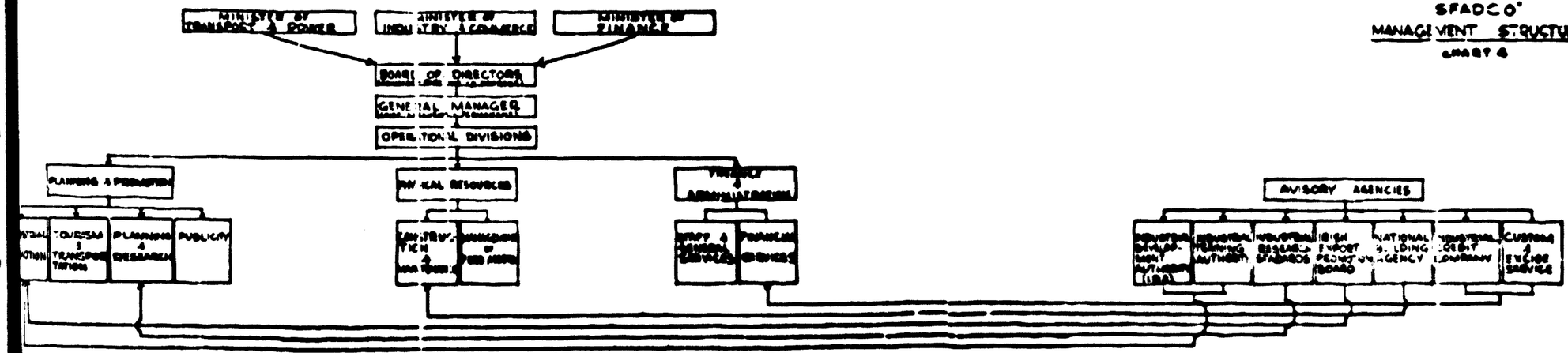
On the other hand KEPZA by virtue of its structure and its belonging to one ministry only, is likely to represent a more limited range of interests from the National Standpoint.
SFADCO's additional advantages lie in its possiblitiy for calling upon the advic of local specialist agencies and research institutes of the kind not existing in Taiwan as yet.

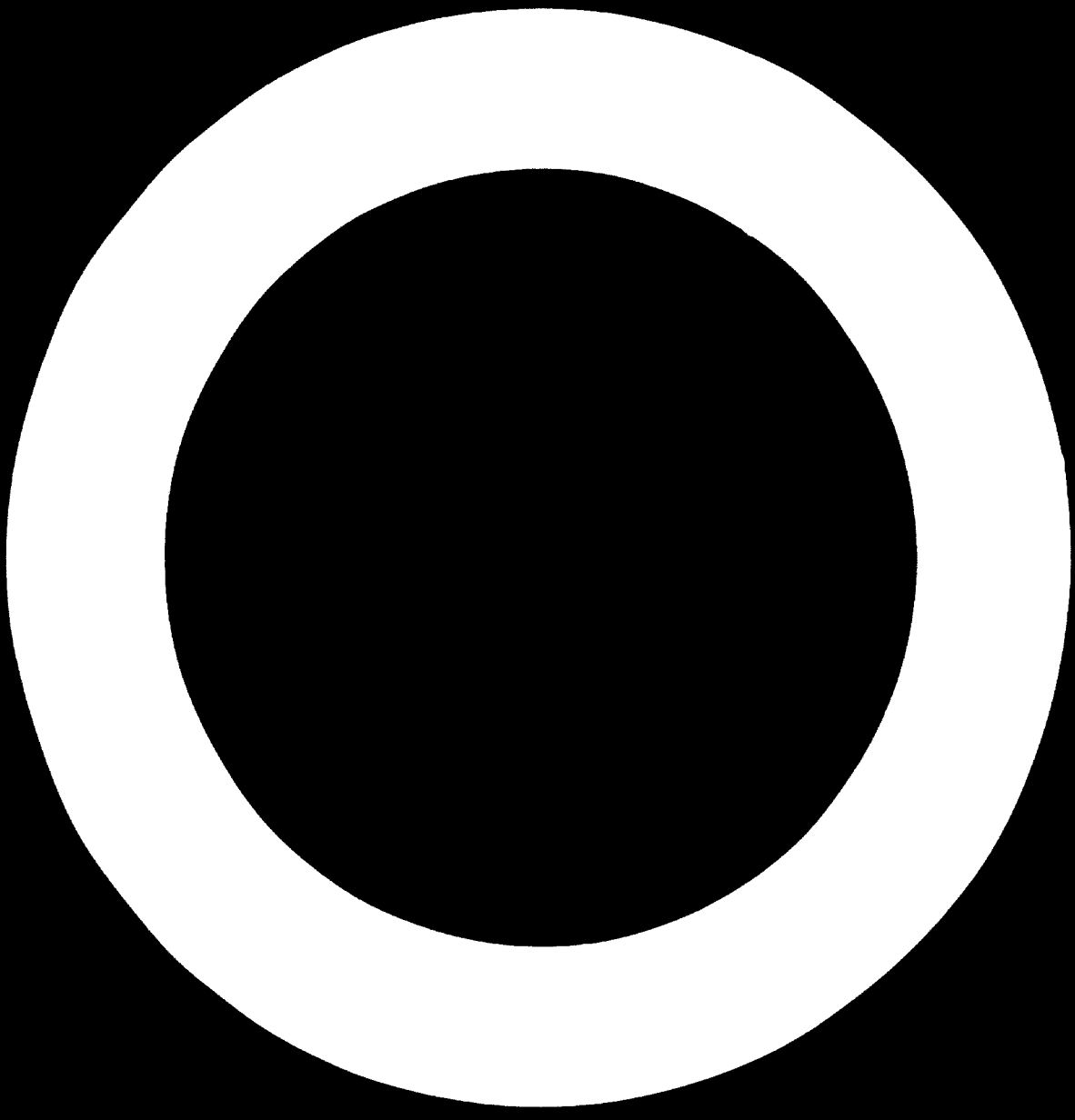
Over the years, SFADCO has become, indeed, a model for succesful and efficient management of a Free Zone in which day-to-day problems and decisions have been tackled with the speed and flexibility associated to a private commercial enterprise.
In the light of these facts the management structure proposed hereunder for the IFZITA Development Authority has basically taken after the SFADCO example.

See chart 4 (page 89).



SFADCO
MANAGEMENT STRUCTURE
CHART 4





4.2 [illegible]

4.2.1 [illegible]

The [illegible] of [illegible] is that of a [illegible] and [illegible] and [illegible] and industry [illegible] Ministry of Finance and Treasury, [illegible] Minister of Planning and Economic Policy.

A Board of [illegible] Ministers and [illegible] and a chairman.
Chairman by [illegible] and Industry.

2 Ministers [illegible] Ministry of Commerce and Industry
1 Minister [illegible] Ministry of Finance and Treasury
1 Minister [illegible] Ministry of Planning & Economic Policy
1 Member on behalf of the Minister of Interior & Justice

The Board should advise policies and strategies such as:

- [illegible];
- Goals and [illegible];
- The [illegible];

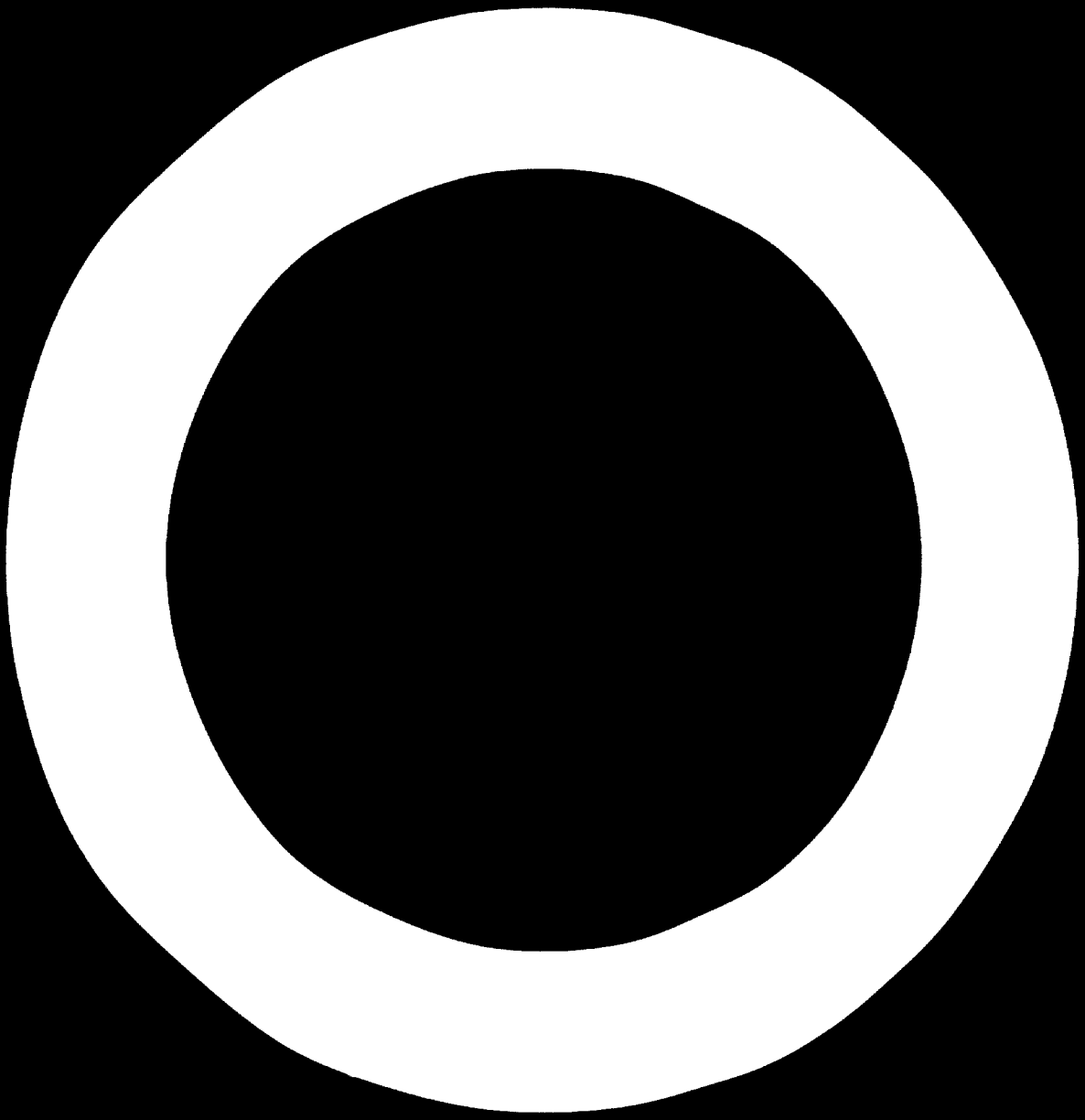
(Should be [illegible] by the Board and will have to be adjusted to [illegible] of the three main [illegible].)

The [illegible] will be gradual. Rather [illegible] will probably delay [illegible] after reaching maturity and experience.

The [illegible] Board will [illegible] left [illegible] General Manager who [illegible] and directly responsible to the Board.

The Operational [illegible] the following:

(1) Industrial Promotion
(2) Planning and Construction
(3) Management and Maintenance of Fixed Assets
(4) Control and Management of Operations
(5) Foreign Exchange and Trade
(6) Financial Facilities
(7) General Services
(8) Internal Administration



The divisions are supposed to be assisted by the Government offices and agencies whose activities are related to the Free Zone's operations. These offices will have to establish branch offices in the Zone and to work under the ultimate supervision of the Authority's General Manager.

4.1.2 [illegible]

a) Industrial promotion

This division is to be the corner-stone of the authority being responsible for the investment promotion.

It is to be run by five specialist advisers capable of creative initiative and possessing expert knowledge in promotion methods, company, [illegible] and feasibility studies, information and publicity systems.

The promotion adviser specialized in international sources of investment, should start to set up a standing system for relations with international manufacturing firms whose activities are considered suitable for the IFZIIA. Concurrently local investors, inclined to venture in joint-ventures, should also be approached. Outcome of these contacts should be presented to the Economic adviser for further investigations.

The Investment Adviser should screen above candidates using the selection-criteria approved by the Board. Subsequently he should work out, for preliminary agreement, individual specifics for incorporation in incentive system to be adapted to each particular case. In addition, general proposals for manning the enterprises with local manpower and skills should be drawn.

As negotiations reach an advanced stage he should call on the assistance of the legal adviser who finally will take over in signing the agreements, defining the legal rights, entitlements and constraints of the coming-in enterprises and issuance of business licenses. The research Intelligent Adviser should act as a supporting capacity to the other Advisers in their day-to-day work by preparing a guide for submission of applications to the IFZIIA; looking into new methods of promotion, [illegible] into optimal types of activity for the IFZIIA; studying air-freight economics; compiling relevant statistics informative analytical and comparative from which guidance and lessons can be drawn; issuance of a yearly report in respect of the IFZIIA operations, achievements and impact on the country's economy.

Finally, the Publicity and Public realtions unit which will be fed by the Intelligence unit will in turn back the promotion and economic adviser in their contacts and negociations.

(b) Planning and Construction

This Division is to be run by two Advisers Planning and Engineering. They should call-in Planning Consultants for the preparation of plans, and on Contractors for implementation. They will have to issue planning briefs and time tables, to follow-up the planning proccess, to co-ordinate between the various consultants-planning, road, utilities, earthwork, landscaping, and finally to supervise the constructions process.

They are to be jointly-responsible for the whole operation to the General Manager.

(c) Management and Maintenance and Fixed Assets

This Division is to be run by two Advisers on Maintenance and Management of fixed assets. The former should employ Maintenance Contractors and supervise their operations. The Latter should manage the revenues of government properties rentals and charges and also get the Planning and Engineering advisers views for issuance of construction permits for alterations, expansions or construction of individually designed factories.

(d) Control and Manage-ment of operations

This Division is supposed to look after the IFZITA'S routine operations, and therefore, will have to fulfill a range of most varied tasks, such as:
Secure the orderly supply of common services; see to the adequate state of installations, satisfactory disposal of effluents and waste and reasonable physical conditions for workers on the premises; control labor relations and even intervene in labor disputes; inspect the quality of products and issue certificates of authenticity.

(e) Foreign Exchange and Trade

This Division exclusively occupied with import/export problems and related foreign exchange, is to be run by two advisers, one specialized in Foreign Trade, the other in Foreign Exchange. The Foreign Trade Adviser being involved us developing methods for promotion of foreign trade and compiling of import/export statistics should closely relate to and co-operate with the Industrial Promotion Division.

The Foreign Exchange Adviser should control and issue licences for foreign exchange transactions. Conditions of repatriation of profits and capital. In this he will have to closely cooperate with the Industrial Promotion Division.

f) Financial Facilities — This Division is to deal exclusively with the actual provision of Fiscal incentive i.e. cash grants, loans, subsidies, tax exemptions tax holydays and Duty-free regulations. It will have to work in close cooperation with the Industrial Promotion Division.

g) General Services — This Division is to organize the supply of common services, the recruitment of workers, the employment of foreign personnel and specialist and to liaise with the Tocumen International Airports Authorities, IFARHU and other government offices and agencies.

h) Administration — This Division is to take care of the Authority's own personnel and equipment and to be responsible for the security of the Zone.

4.2.3 The Supporting Agencies

The following Eight Government offices and agencies are to support the IFZITA Authority in its routine work and establish branches in the IFZITA AUTHORITY building to work under its General Manager

The Customs
The Tax Bureau
The Post Office
The Telecommunications Office
The Commodity Inspection Bureau
The INHA Electric Power Supply Co.
The IDAAN Water Supply Company
The National Bank of Panama

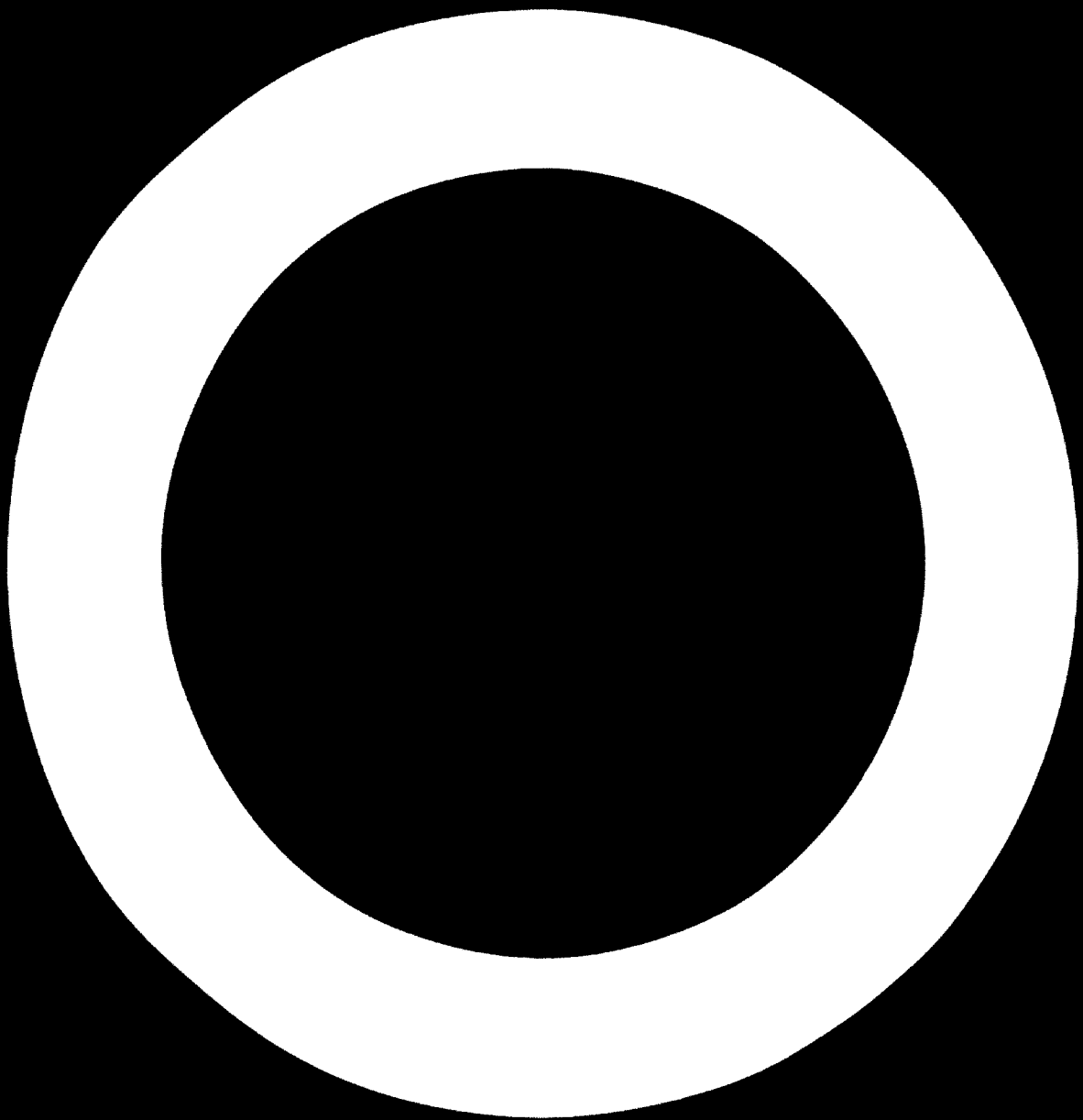
See Chart 5 (page 95)

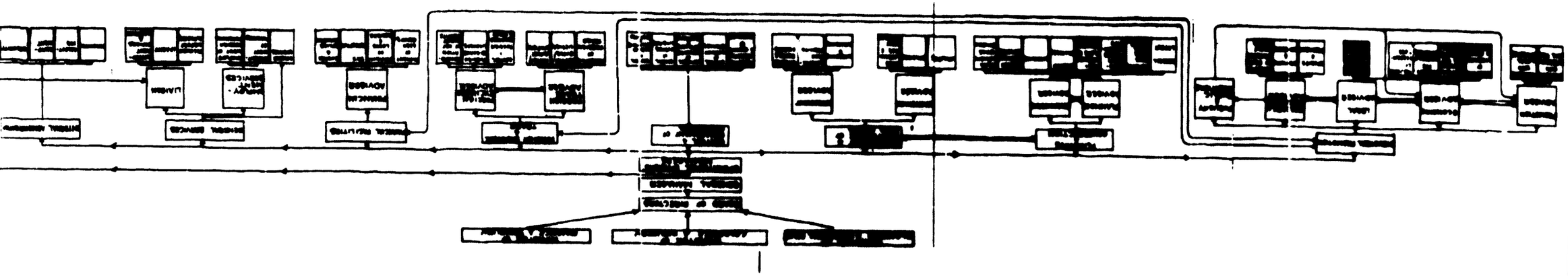
4.2.4 Preparatory Courses of Action

The IFZITA Authority should be established as a statutory body. This will require the following courses of action:

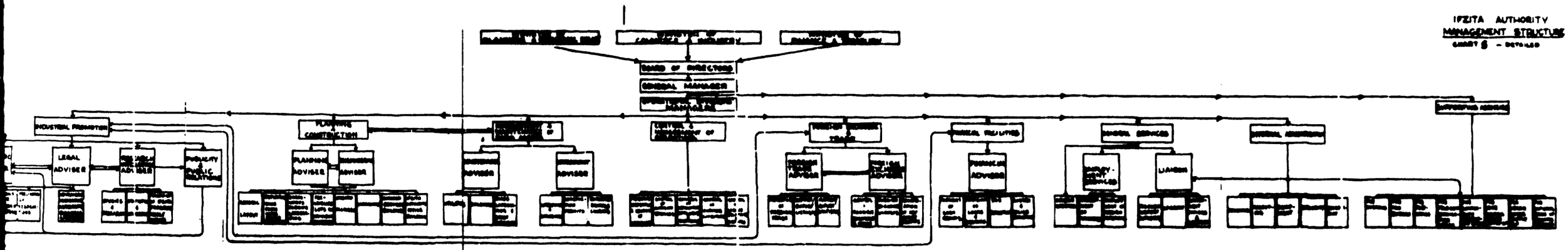
(1) Appointment of an ad-hoc committee to draft an act regarding the establishment of an Industrial Free Zone at the Tocumen Airport, including the demarcation of its territorial boundaries;
(2) Approval of the above act by the Government;
(3) Endorsement of the above act by the legislative body;
(4) Promulgation of the act ;
(5) Establishment of IFZITA AUTHORITY - to build, promote and admister the IFZITA;
(6) Endorsement of an act empowering the Minister of Finance to provide the IFZITA AUTHORITY with capital for the construction of the Industrial Free Zone for payments of grants, loans, subsidies and running expenses;
(7) Appointment of the IFZITA AUTHORITY'S BOARD OF DIRECTORS;
(8) Appointment of the Board's Chairman ;
(9) Appointment of the General Manager;
(10) Assigment of the above ad-hoc commitee to formulate regulations for the operation of the IFZITA;
(11) Endorse the above regulations as acts in the legislative body;
(12) Empower the IFZTIA AUTHORITY to enact the above regulations;

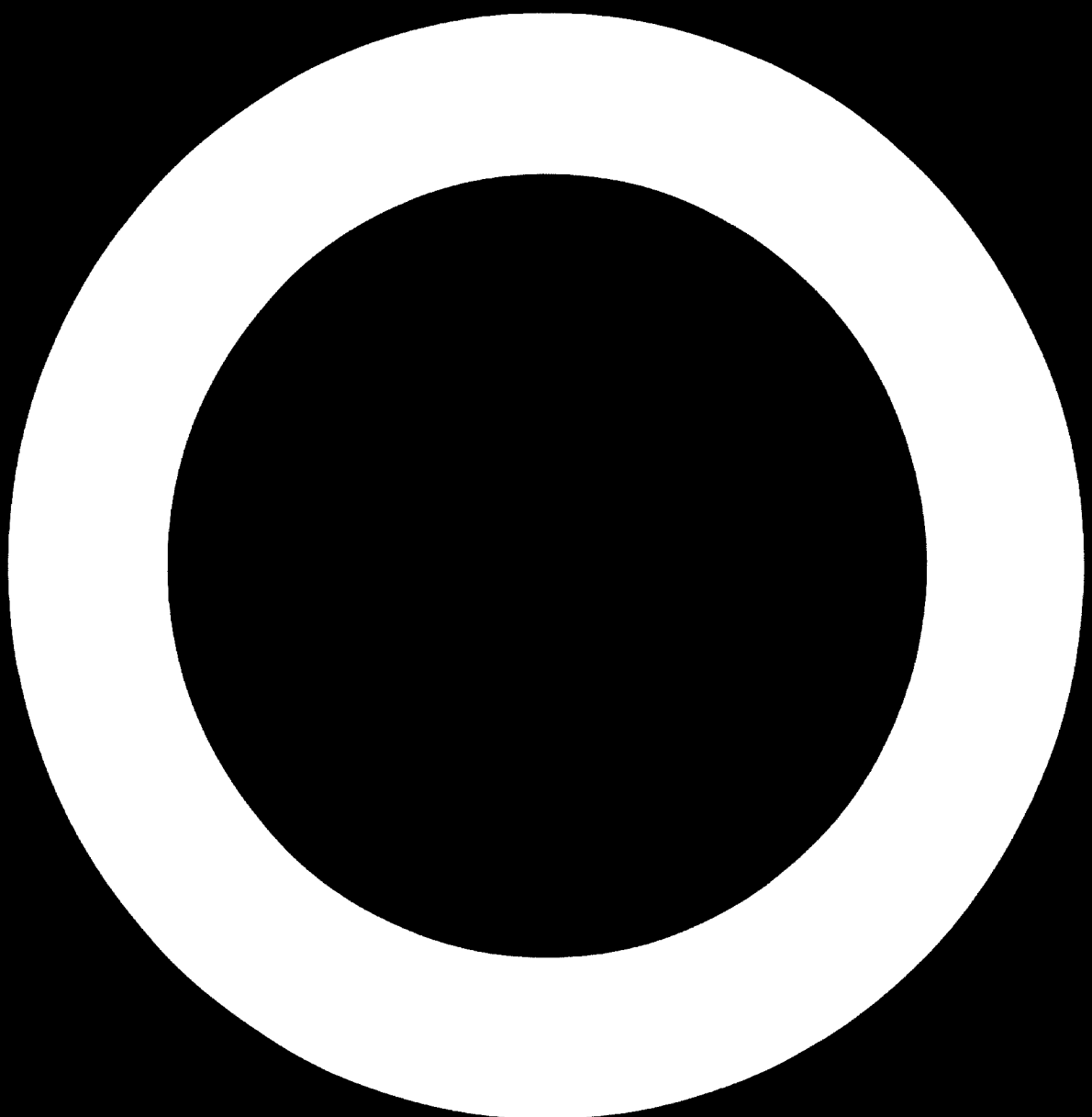
It is suggested that the above ad-hoc committee should be initiated by the Ministers of Commerce and Industry in consultation with the Ministries of Finance and Treasury and of PLANNING AND ECONOMIC POLICY





IFZITA AUTHORITY
MANAGEMENT STRUCTURE
SHEET 8 - DETAILED





5. A LEGISLATIVE FRAMEWORK FOR THE IFZ[illegible]

5.1. GENERAL

The IFZ[illegible] will need [illegible] legislation tailored to its specific requirements with view to provide legal support to its day-to-day operations.
The Colon Free Zone regulations [illegible] be but of little relevance to the IFZ[illegible] due to the different nature of activities taking place in [illegible] based Free Zone engaged mainly in commercial transactions, while the IFZITA is an air, [illegible]-based Free Zone to be [illegible] exclusively on industrial manufacture for export.

Over the last decade considerable experience has been accumulated in the [illegible] of legislation for industrial free-zones from which guidance can be derived.

The foregoing legislative proposals have largely taken after the Shannon legislation, incorporating [illegible] specifics related to the IFZITA particular requirements.

The basic intention underlying this draft has been the establishing of a stimulative-regulative legislation rather than a purely restrictive one. However, it is [illegible] that a close scrutiny of a legal adviser will be needed in the final re-drafting in order to avoid legal [illegible] proper terminology. This responsibility could be well taken by the [illegible] mentioned above.

5.2. A LEGISLATIVE [illegible]

5.2.1 Business Licences

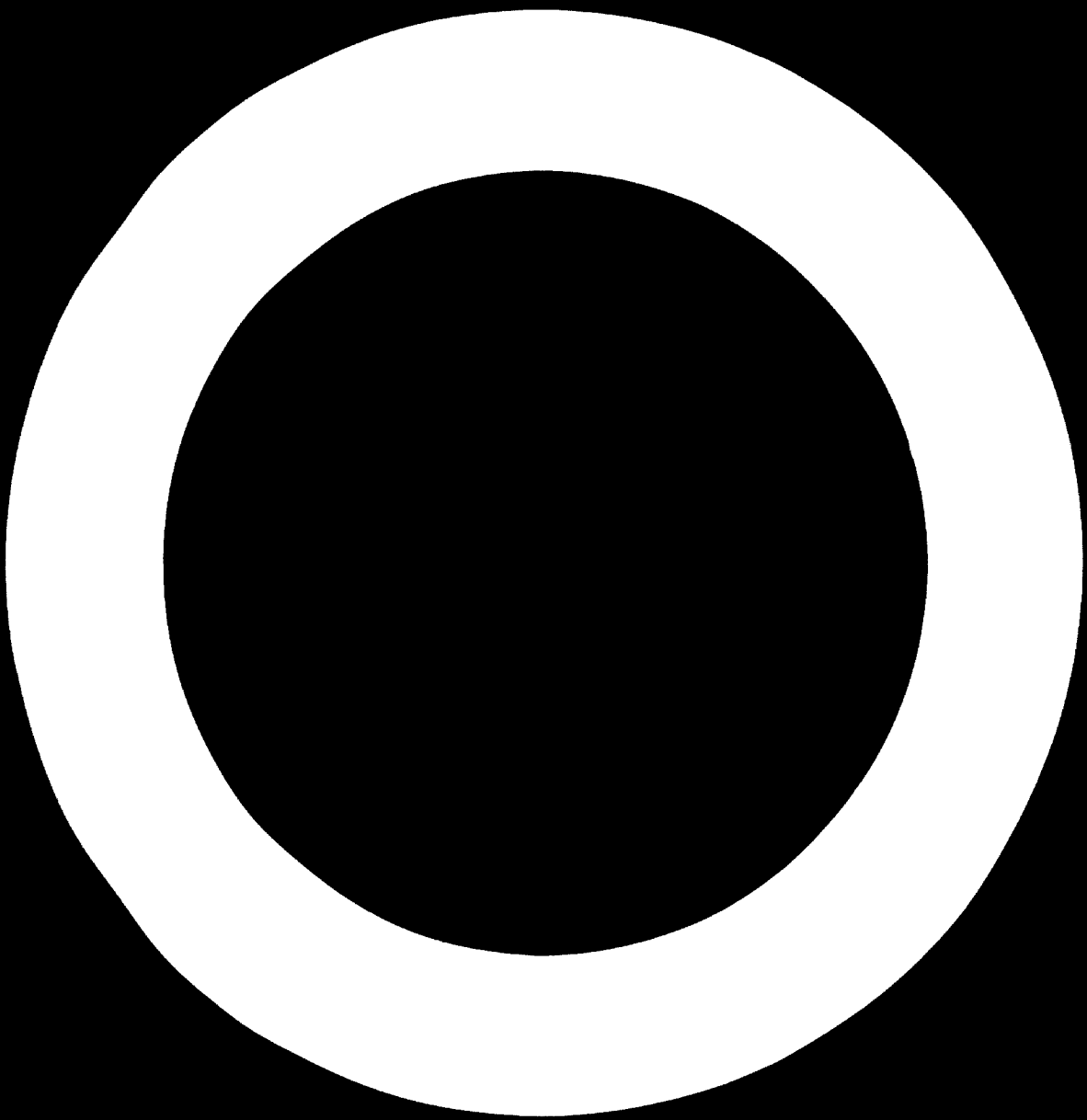
(a) Under the Customs Free [illegible] the setting up of a new business within the IFZITA boundaries, requires to be licenced. Applications for licences should be addressed to the Industrial [illegible] Manager [illegible] IFZITA AUTHORITY [illegible] International Airport [illegible]. Licences may be granted subject to conditions [illegible] IFZITA AUTHORITY BOARD thinks proper and require to be certified by the Ministry of Industry and Commerce.

(b) A Licence cannot be revoked unless there is a breach of a condition attached to it or the licensee has been found guilty of an offence against the Customs Acts in relation to materials or [illegible] covered by the licence. The conditions attached to a licence will be varied only with the consent of the licensee. In the case of a transfer the licence must notify the IFZITA AUTHORITY BOARD.

5.2.2 Income Tax and Corporation Profits Tax

(a) Exemption from Income Tax applies to capital gains.

(b) Exemption from Corporate Profits tax applies to profits arising within a period of 15 years since starting day of trading operations of a



qualifi[illegible] Minister of Fi[illegible] by B[illegible] rpora-ble, whet[illegible] or elsewher[illegible], which carries on a trade, [illegible] part, within the IFZiTa confi[illegible].

(c) Trade [illegible] by the Minister of [illegible] they [illegible] [illegible] wise stipu-lated, only if:

(1) [illegible];

(2) [illegible];

(3) [illegible] of aircraft within the IFZiTA;

(4) [illegible] of servi[illegible] entailing [illegible];

(5) [illegible] to the [illegible] Article;

(6) [illegible] by any of those described [illegible] (5)

(d) Exemption from tax [illegible] profits attributable to [illegible] in France outside the IFZiTA or profits from the sale of goods or the performance of services to persons residents in France outside the IFZiTA even if the relevant sale, etc. are made in the IFZiTa

(e) A certificate by the Minister of Finance cannot be issued until after the company concerned has commenced to trade in the IFZiTA or which issued it has effect as from the date on which the company has commenced to carry on its exempted trading operations. A certificate may be revoked only if the company ceases to trade in the IFZiTa or fails to comply with any conditions subject to which the certificate was issued.

(f) Where the company's trade consists partly of exempted trading operations and partly of other trading operations the profits from the latter operations are, for tax purposes, computed as if the company was carrying on two trades consisting respectively of the exempted operations and of the other operations. Expenses or receipts common to both classes of operation are suitably apportioned and reductions in respect of wear and tear of machinery or plant or other capital allowances are adjusted as "approved".

(g) A company must make a return of its total profit notwithstanding that some or all of the profits arise from exempted trading operations. In addition it may be required to furnish to the Revenue Commissioners with such further accounts and particular as they think necessary

(h) Income tax is not deductable from a dividend out of profits from exempted trading operations and th dividend is not regarded as income of the shareholder for tax purposes.
For this purpose a dividend which is paid partly out of profits from exempted trading operations and partly out of other profits is treated as consisting of two dividends payed respectively out of the profits of each class.

(i) A company must account to the Revenue for Income Tax on charges such as debenture interests or patent royalties payable under deduction of tax, in so far as such charges are paid out of profits from exempted trading operations. Where the profits out of which the charges are paid are in part exempted and in part taxable a proportionate part of the charges is treated as payed out of the profits of each class.

(j) After a 15 years period of trading operations within the IFZITA confines a company may be partially exempted from Corporate Profit Tax for another 5 years extending from its 16th to its 20th year of operation for its trading operations within the IFZITA confines:

80% of the full rate in year 1
65% of the full rate in year 2
50% of the full rate in year 3
35% of the full rate in year 4
15% of the full rate in year 5

provided its trading operations cortimue to fall within the categories listed under paragraph (c).

(k) In the course of the 5 years extending from the 16th to the 20th year of a company operation within the IFZITA confines the company is subject to all constraints listed under above paragraphs (d), (e), (f) (g), (h) and (i).

5.2.3 Customs Duty

(a) Goods imported into the IFZITA, either from the rest of Panama or from abroad for manufacturing or p r o c e s s i n g of goods made in the IFZITA and intended exclusively for export to markets outside Panama and/or equipments for the IFZITA Authority own use, are exempted from Customs duty under the Customs-free Airport Act.

(b) Goods used for producing, manufacturing, or processing of goods, made in the IPZITA for export, may be certified by the Minister of Commerce or Industry as exempted from customs duty only if:

- they fall into one or more of the following categories:

  - Machinery and associated spare-parts
  - Miscellaneous equipment and supplies for use in factories and offices (vehicles, computers, furniture, stationery & telecommunication equipment)
  - Semi-furnished products
  - Packaging material

- They produce evidence on exporting the manufactured commodities to markets outside Panama and/or evidence of usage by IPZITA AUTHORITY personnel within the IPZITA confines.

(c) Surplus goods made in the IPZITA under special authorisation for home consumption other than goods made from ingredients of a kind subject to import restrictions in Panama where the conditions set out in the following paragraph (5.2.3) are fulfilled are exempted from the customs duties normally applicable to imported goods and or liable only to any duties applicable to ingredients used in their manufacture. "Made in the IPZITA" means produced, manufactured, or processed in the IPZITA.
Ingredients include any article or material used in making the goods in the IPZITA as well as packaging material.

(d) The conditions referred to in paragraph 5.2.3-(c) are that the producer shall:

- Maintain records showing:

  - In respect of any article, materials or ingredients used in the course of production, manufacture, or processing, the date of receipt, from whom and whence received, the value and quantity and, in the case of articles, material or ingredients so used, the quantity used, per unit of the finished goods, etc.

- In respect of such finished goods particulars of disposal including selling price and quantity sold in the case of every sale.
- Keep available for a period of not less than two years for inspection by officers of Customs & Excise, such records and all invoices and other documents relating to transactions in any of the articles, materials, ingredients or finished goods;
- Allow officers of Customs and Excise at all reasonable times to inspect such records, invoices and other documents and to examine and take samples of any of the articles, materials, ingredients or finished goods.

(e) The following classes of imports from the IFZITA are not eligible for the concessions mentioned in paragraph 5.2.3 (c) above.

-Goods made in the IFZITA from ingredients subject to import restrictions in Panama.

-Goods in respect of which the cuty on the ingredients cannot be determined because of non compliance with the conditions mentioned in paragraph 5.2.3(d) above.

These classes of imports from the IFZITA are therefore liable to the duties (if any) chargeable on like goods imported into the rest of Panama from abroad.

(f) Good imported into the rest of the State Via the Airport without having undergone there in any process of manufacture or packaging are subject to the regular conditions eligible for any preferential rates of duty to which they would have been entitled if they had been consigned in the first instance to a part of Panama other than the IFZITA.

(g) It is recommended that the Customs-Free Zones Act in preparation make it an offence subject to custom penalty of either treble the duty paid value of the goods or $300, which is the greater to dispose irregular or to assist in the irregular dispose of any goods throught into the IFZITA free of duty for purposes authorized by the Customs-Free Airport Acts.

(h) It is recommended that the Finance Act in preparation provide for the charge of duty on unexplained deficiencies in stocks of dutiable goods brought into the IFZITA free of

duty under the provisions of the Custom-Free Zone Act and will provide a penalty of double the amount of duty for failure to pay the duty within 21 days of demand lawfully made therefore.

5.2.4 Grants & Financial Facilities

(a) The IFZITA AUTHORITY is authorized by the Ministry of Finance for non-repayable cash-grants towards the costs of fixed assets, training grants to new industrial enterprises established themselves in the IFZITA and purporting to produce commodities exclusively for export outside the Republic of Panama.

(b) Grants towards the costs of fixed assets start from 25% of the total cost which may be negociated with the IFZITA AUTHORITY up to a maximum of 35% provided the cost of the fixed assets does not exceed $1.5 million and the investment/job ratio does not exceed $ 2,000 in the first phase and $ 4000 in the second phase.

(c) Grants on fixed assets are repayable if an enterprise established in the IFZITA has closed down before ten years have elapsed from starting day of operation.

(d) The IFZITA AUTHORITY is entitled to claim the refunding of Finance to provide for a non-repayable training of workers and the costs involved in management and hiring of consultants and training of personnel.

(e) The IFZITA AUTHORITY is authorized by the Minister

of Finance to raise loans or guarantee loans and subsidise interests for one or more of the following objectives:

- New plant and machinery;
- Construction of individually designed factory;
- Working capital.

According to merits of the firm in the IFZITA AUTHORITY'S view and upon negociation.

(f) The IFZITA AUTHORITY is authorised by the Minister of Finance to issue annually licences for repatriation of 70% of net profits deriving from exports since end of first year of operation.

(g) The IFZITA AUTHORITY is authorised to issue licences for repatriation of capital subject to negociation at a yearly rate not exceeding 15%.

(h) The IFZITA AUTHORITY is authorised by the Minister of Commerce and Industry to issue import/export licences subject to conditions specified under paragraphs 5.2.3(a) to 5.2.3 (g)

(i) The IFZITA AUTHORITY is authorise by the Minister of Finance & Treasury to issue licences of foreign exhange to manufactures producing exclusively for export.

2.5 Planning Development and Construction

(a) The IFZITA AUTHORITY is commissioned by the Ministers of Commerce and Industry of Finance and Treasury and of Planning & Economic Policy to undertake and be responsible for the planning, construction and Development of the IFZITA and its management there after.

(b) The IFZITA AUTHORITY is responsible for the preparation of a general layout plan in consultation with the Tocumen Airport Authority and for the approval of this plan by the latter and the Ministry of Planning & Economic Policy and also by the City Planning Committee of Panama - City Local Government.

(c) The IFZITA AUTHORITY is responsible for the preparation of detailed plans for roads, water supply power and sewage networks development works and landscalping and for their approval by the Direccion Aeronautica Civil (D.A.C.)

(d) The IFZITA AUTHORITY is responsible for the preparation of detailed plans for standard factories, warehouses, repair and maintenance shops, training center, canteen and cafeteria, petrol station, firebrigade, office building for the IFZITA AUTHORITY and for their approval by the Direccion Aeronautica Civil (D.A.C.) and the Local Government.

(e) The IFZITA AUTHORITY is responsible for the scrutiny of plans produced by enterprises for individually designed factories and ultimately for their approval by the D. A. C. and the Local Government.

(f) The IFZITA AUTHORITY is responsible for the implementation of plans mentioned under paragraph 5.2.5(c) and 5.2.5(d) also commissioned to inspect the implementation of the individual factories and is entitled to discontinue their construction in case of abuse of building restrictions.

2.6 Management and Maintenance of Fixed Assets

(a) The IFZITA AUTHORITY is commissioned to manage and maintain the networks and the buildings within the IFZITA.

(b) The IFZITA AUTHORITY is responsible for the orderly functioning of roads, power, water, sewage and telecommunication networks and for their proper maintenance and is authorized to collect charges for usage telecommunication networks.

(c) The IFZITA AUTHORITY is responsible for the orderly functioning of the common services for their proper maintenance and is authorized to collect charges from the users.

(d) The IFZITA AUTHORITY is authorised to lease sites under the local lease act for 25 years or 5 years at the tenantt's option, conditional on compliance with regulations.

(e) The IFZITA AUTHORITY is authorized to sell standard factories or alternatively let them enterprises at a monthly rent. The rent is subject to revision every five (5) years.

(f) The IFZITA AUTHORITY is responsible for the scrutiny of plans submitted by enterprises operating in the IFZITA on alteration of factories, expansions fencer, siting of signboards etc. and for their final approval by the authorities after making sure that they come with building regulations.

(g) The IFZITA AUTHORITY is authorized to inspect and enforce building restriction within the Lots in respect of:

- The limitation of uncovered storage area on the lot to 3.5.m(=(11Ft.) from the Lots boundary.
- The limitation of floor space ratio to cope with building regulations established through the approved plan.
- The limitation of the height of the building to cope with Tocumen Airport regulations.
- The forbiddance disposal of damaging effluants into the draining system.
- The forbiddance of waste disposal on frontages of factories.
- The forbiddance of unauthorized interference with buildings. structures.

(h) The IFZITA AUTHORITY is authorized to draft any regulations it may consider necessary to saveguard the visual appearance of the Zone and the quality of its environment and enforce these regulation on the enterprises operating in the Zone.

(i) The IFZITA AUTHORITY is commissioned with the routine overall maintenance of the Zone, Buildings, frontages, fences, roads landscaping and street furniture.

5.3. CRITERIA FOR ADMISSION OF MANUFACTURING ENTERPRISES TO THE IFZITA

5.3.1 Criteria for Minimal Acceptable Conditions

(a) The IFZITA AUTHORITY Board of Directors in agreement with the Ministers of Commerce and Industry, of Finance and Treasury and of Transport and Development, should stipulate a criteria set-up in assessing the eligibility of manufacturing enterprises for admission to the IFZITA, with view to:

- Maximize job opportunities;
- Maximize competetiveness of produced commodities;
- Maximize value of exports.

The criteria set-up is comprised of a range of constraints defining the minimal acceptable conditions and of a package of broad considerations in respect of the short and long-term range contributions and repercussions anticipated.

(b) Constraints:

(I) value/weight ratio of produced commodities not below 1.5 $/lbs.

(II) Savings in direct shipment costs through use of air-freight not below 15%;

(III) Value added for employee not below 42%

(IV) Total investment per job not exceeding :
$ 2000 in the first phase and
$ 4000 in the second phase

(VII) Value of export/investment ratios not below 3.0:1

(c) Considerations:

(I) The anticipated importance of the manufacture to the economy of Panama;

(II) The benefits likely to accrue in terms of export promotion and unemployment reduction;

(III) The viability, growth potential and expected life-time;

(IV) Forward/backward linkages with existing and prospective manufacturing in the Zone;

(V) The proposed total capital investment (inUS$);

(VI) The anticipated total value of exports;

(VII) The intention of using modern techniques;

(VIII) The water requirement;

(IX) The intention to start operations within a short time.

5.3.2 Criteria for Defining Priorities

(a) The IFZITA AUTHORITY Board of Directors in agreement with the Ministers of Commerce and Industry of Finance and Treasury and Planning and Economic Policy should use the criteria listed in table 17: "Fiscal Incentives recommended for the IFZITA in assigning priorities for admission of enterprises.

5.3.3 Criteria for Non-Admittance

The IFZITA AUTHORITY Board of Directors in agreement with the Ministers of Commerce and Industry, of Finance and Treasury and of the Planning and Economic Policy should use the following criteria in refusing the admission of enterprises to the IFZITA:

(a) Constraints:

(I) Manufactures failing to cope with constraints listed under 5.3.1(a) above

(II) Noxious manufactures emitting odours dust fumes and noise during the production process;

(III) Manufactures having a high fire risk;

(IV) Manufactures with requirement for massive land area as large as 10-15 times the standard lot.

(V) Manufacturing enterprises in which apparatus may be used which emits signals of radio-frequency provided a certificate is produced from the Director of Civil Aviation certifying that the use of such apparatus will not cause interference with the radio-communication systems of between the airport and the aircraft.

5.4. THE COVENANT

5.4.1 General

The IFZITA AUTHORITY should sign an agreement with every coming in enterprise in form of a covenant. The covenant should contain the privileges and liabilities committing each part in respect of the following subjects:

(1) Business registration;

(2) Tax exemptions;

(3) Incentives fiscal & physical as agreed upon previous negociations;

(4) Foreign exchange and trade repatriation of capital;

(5) Building regulations;

(6) Use of public utilities and amenities;

(7) Use of Common services;

(8) Maintenance of the environment;

(9) Powers of the IFZITA AUTHORITY.

5. 4. 2. References to the Legislative Framework

(1) Business registration:

Paragraph 5.2.1 in this chapter

(2) Tax exemptions:

Paragraphs 5.2.2 and 5.2.3. in this chapter

(3) Incentives:

Paragraph 5.2.4 in this chapter adjusted to each individual case, using the criteria of paragraphs 5.3.1 and 5.3.2 in this chapter in determining the monetary and time-scale parameters of fiscal incentives.

(4) Foreign exchange and trade repatriation of capital

Paragraph 5.2.4 in this chapter incorporating allowances to each individual case where required.

(5) Building regulations

Paragraph 5.2.5 in this chapter

(6) Use of public utilities and amenities:

Paragraph 5.2.6 in this chapter

(7) Use of Common services

Paragraph 5.2.6 in this chapter

(8) Maintenance of the environment

Paragraph 5.2.6 in this chapter

(9) Powers of the IPZIMA AUTHORITY

Paragraphs 5.2.1 - 5.2.6 in this chapter.

6. THE GOVERNMENT'S INITIATIVES AND COURSES OF ACTION

6.1 General

This mission suggests the year 1976 as a TARGET YEAR for completing the implementation of the 1st phase of the IFZITA.

This proposal intends to co-ordinate, by and large, with the target-year established for completion of the Tocumen Airport and enable a joint inauguration of both.

In addition, the period of time between the years 1975-76 is estimated to be sufficient both for the construction of the 1st phase and the other various courses of action in view, as specified below.

6.2 Courses of Action

The Government will have to take the lead in the following actions:

(a) The setting up of a number of Committees.

(b) The Appointment of a Board of Directors for the IFZITA Authority.

(c) Establishment of a favourable climate for export-oriented Manufacturing.

6.3 Committees

The setting up of the three following Committees is recommended:

(a) An Interministerial Committee

(b) A United Nations Advisers ad-hoc Committee

(c) A Government Standing Committee

The interministerial committee — expected to drew initial rudimentary lines of action — is to include four members as follows:

(1) the Minister of Commerce & Industry - Chairman & Promoter;

(2) the Minister of Finance & Treasury;

(3) the Minister of Planning and Economic Policy;

(4) the Minister of Labour & Welfare.

The United Nations Advisers ad-hoc Committee is to investigate problems related to training of manpower and to wages/productivity relationships. It is to operate on a limited-time basis for until completion of study and formulation of recommendations. This Committee is to include 2 members currently carrying out U.N. missions:

(1) Director of: Projecto de Formacion Profesional" (PNUD/PAN/525) from OIT(ILO) Agency

(2) Director of: Projecto de Artisania Industrial" (PNUD/PAN/520) from OIT(ILO) Agency.

The Government Standing Committee should serve as a permanent advisory capacity after the U.N. advisers ad-hoc committee has completed its investigations and presented its recommendations to the Interministerial Committee.

This Committee is to include 9 members:

2 members representing the Ministry of Commerce and Industry out of which one at the chair

1 member representing the Ministry of Finance & Treasury

1 member representing the Ministry of Labour & Welfare

2 members representing the Syndicate of Local Manufacturers

1 member representing the Central Syndicate of Workers

2 members representing the Syndicate of Workers in the Manufacturing Industry.

The required quorrum for decisions should be at least 6 members. This Committee should be entitled to Technical and Administrative facilities including 5 persons.

6.4 Setting-up the IPZITA AUTHORITY

One of the major actions of the Interministerial Committee is to set up a Board of Directors for an autonomous Development Authority for the promotion, erection and running of the IPZITA (see 4 "The IPZITA Management Structure").

6.5 Establishing a favourable "Climate" for exports-oriented manufacturing.

The establishment of a favourable climate for export-oriented manufacturing should focus on 2 key issues:

(a) Training of manpower

(b) Achieving a consensus view in respect of wages/productivity constant relationship.

These two topics are in a way interrelated and any action suggested below affects both.

At the first instance it rests with the Government to initiate extensive programmes for training of manpower.

Concurrently it should initiate co-operation between parties involved in manufacturing, i.e., between the
Government itself and the Industrialists;
the Government and the workers' syndicates;
the industrialists and the workers' syndicates.

The Government should also enable those involved parties to draw on the lessons of other countries having gathered experience and achievements in production for exports. In line with this approach the sponsorship and financing of some specific programmes would be desirable as follows:

(a) Joint study-tours for chiefs of workers syndicates and for senior managerial staff of factories in which they would be able to witness working conditions, general working atmosphere and learn on levels of productivity and their related essential conditions.

(b) Working trips for selected skilled manpower and senior staff of factories. The former would get an opportunity of improving their knowhow and technology, and practice on sophisticated machinery; the latter would be able to acquaint themselves with new and advanced management techniques.

(c) Public relations campaign using all available communications media such as press, telecommunication, radio and television to stimulate public awareness on the broad advantages and opportunities stemming from industrialisation for both the country as a whole and individuals which may be involved or interested in the process.

(d) Concurrently a parallel advertising programme should be launched for publicity overseas.
Advertising material should be hammered out to be presented to commercial attaches in the local embassies and to commercial circles abroad.

This action should be taken up jointly with the FIZITA AUTHORITY.

A PHYSICAL PLAN FOR THE IPZITA

7.1 Locational Criteria

7.1.1 General

Factors determining the location of the IPZITA within the Tocumen Airport fall into three main categories:

(1) Environmental
(2) Functional
(3) Physical

7.1.2 Environmental determinants

(a) General

Environmental factors affecting any particular function located within an airport include three components:

1. Aircraft emission
2. Noise exposure
3. Interference with airport radio signals.

The growing disturbance caused by air and noise pollution have led in recent years to numerous studies which, since, brought to light their deleterious effects on the human organism as such, and stressed the imperative need for protection from this nuisance; hence, these factors have been established as environmental determinants in locating any urban uses.

Environmental problems caused by air and noise pollution, are further exacerbated within an airport as a result of aircraft movements. Consequently, aircraft emission and noise exposure represent locational determinants of prime importance in an airport context.

An additional environmental factor, specific to airports, is radio signalization in control of Landings and Take-offs; any interference in their orderly operation by proxime activities emitting electronic waves may cause severe hazards.

Consequently, it is conceded that aircraft emission, noise exposure and radio signalization would determine in an airport context the location of any function.

Empiric findings and research studies have explored, in recent years, into air and noise pollution problems with the intention of establishing standards of "acceptable" and "inacceptable" conditions, in this respect, and utilize them as planning criteria.

Specific studies have ventured to look into the particularities of the situation within airports.

(b) Aircraft emission

Pollutants emitted by aircraft engines include gaseous hydrocarbons, carbon monoxide, oxides of nitrogen particulate matter and sulphur dioxides.

The Environmental Protection agency of the United States has established Standards for air quality as follows:

Carbon monoxide	10 milligrams(mg)/m^3	- 9 ppm - 8 hours, once a year
" "	40 " " "	- 35 ppm - 1 hour, " " "
Nitrogen dioxide	100 micrograms/m^3	- 0.05 ppm - annual arithmetic mean
Hydrocarbons	160 " "	- 0.24 ppm - 3 hours, once a year
Particulate matters	160 " "	- annual geometric mean
Sulphur dioxide	80 " "	- annual arithmetic mean
Oxidant	160 " "	- 1 hour, once a year

Studies carried out in respect of a number of airports in the United States have produced Hydrocarbon isopleth maps for 1980 which indicate on an anticipated concentration of 300 micrograms m^3 annual average over the runways; yet no specific resemblance can be traced for the configuration of the other isopleths. The dispersal of pollutants concentration is in fact highly dependent on local meteorological conditions and therefore no conclusion can be derived from this study for the Tocumen Airport. Such a study has been recommended by this mission at an early date but has not yet reached materialization.

It is, however, a current view among air pollution experts that the problems arising from aircraft emission in the case of the Tocumen Airport are of a magnitude which should not arise concern due to the rainy and windy nature of the place.

(c) Aircraft noise

Recent research studies on noise exposure in two airports in the Western Hemisphere - one for Piarco Airport[1] and the other for Tocumen Airport[2] have attempted at defining standards for the various degrees of acceptabili: of noise by various land-uses. Both studies are based on methods developed by Bolt, Beranck and Newman inc.

Concurrently, empiric findings on present noise exposure have been projected for the year 1980 and mapped in the form of "Noise Contours" on "Isopleths".

The standards mentioned above can be utilized to define the various degrees of Noise Exposure of different areas within the airport.

The Piarco Airport Noise Study has established the CNR - Composite Noise Rating-as an index describing the effect of noise on the surrounding community.

The CNR has been computed with respect to the following variables:

1. The Perceived Noise Level in Decibels - PNdb (calculated from measured noise levels correlated with subjective responses of people to various degrees of aircraft noise);
2. the number of occurrences per day;
3. the number of occurrences during day time versus night time;
4. the time duration for ground operations.

The computed CNR values were compared with established broad categories of community response in various places throughout the urban area and thereby the comparative sensitivity of various types of land use to noise could be established.

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(1) by the Ministry of Planning and Development

(2) by Rohloff for the Parsons Corporation

As a variant to the above method, and yet based on a similar concept, the Toronto Airport Noise Study established the NEF - Noise Exposure Forecast - as an index for measuring noise impact.

The NEF computation was based on predicted aircraft movements on a peak day of 1980 and has included consideration in respect of:

1. Various hours of the day
2. Aircraft types
3. Take off operations & stage length.

The following table, exposes a summary of findings of both above mentioned studies and throws light on the following subjects:

1. The relationship between noise indices computed under the above approaches.
2. The significance of these indices in terms of community response in the various land uses of an urban area.
3. The degrees of "noise sensitivity" of various land uses.
4. Standards for noise "acceptability" and "inacceptability".

TABLE 20: RELATIONSHIP BETWEEN NOISE INDICES (CNR & NEF) LAND USE AND COMMUNITY RESPONSE

LAND USE				Noise Sensitivity (1)	Land use & community response interpretations through Composite Noise Rating (CNR) and Noise Exposure Forecast (NEF)
Types of Manufactures	SLUCM	Noise Sensitivity	All categories		CNR 92 100 107 115 120 NEF 20 25 30 35 40 45 50
			Residential	1-2	
			School classrooms, libraries, churches, hospitals.		
			Auditoriums, Concert Halls	1	
			Commercial, Movies, Restaurants	3	
			Office buildings, personal business and professional Services	3	
Apparel	23	4	Commercial - wholesale & some retail industrial manufacturing, transportation, communications & utilities	5	
Printing Publishing	27	5			
Rubber & Misc. Plastic goods	31	5			
Professional scientific & controlling instruments	35	3	Manufacturing noise sensitive		
Musical instruments	39	4		3	
Recorders audio-amplifiers	36		Communications noise sensitive		

Source: Bolt, Beranek & Newman Inc.

(1) Noise sensitivity describing A,B,C,D,E, situations by mean of an ordinal scale including 5 grades: 1 describes the top of the scale and 5 - the bottom.

Noise Compatibility Interpretations for the Table No.20

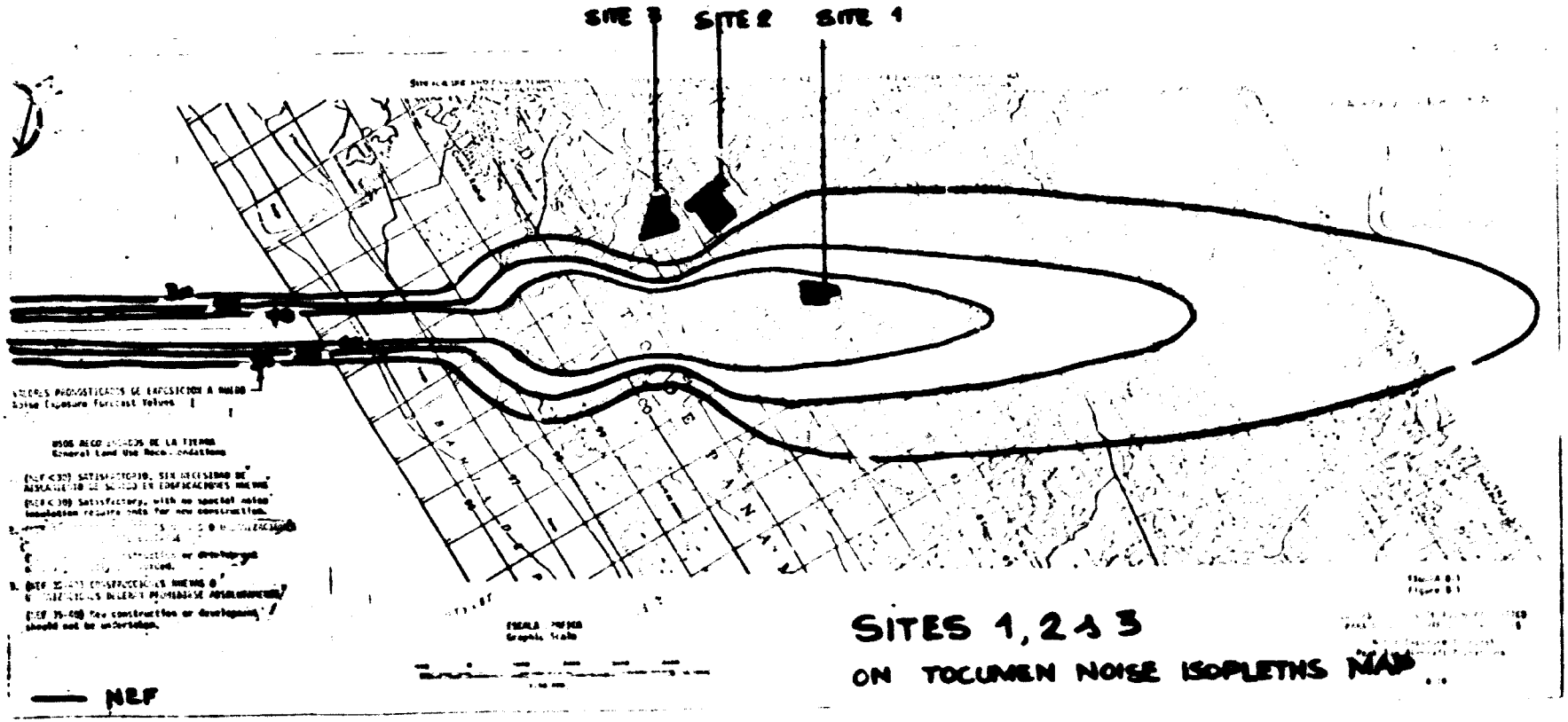
		General Use Recommendations
A	I	Satisfactory, with no special noise insulation requirements for new constructions
B		New construction or development should generally be avoided, except as possible infill of already developed areas. In such cases a detailed analysis of noise reduction requirements should be made, and needed noise insulation features should be included in the building design.
C		New construction or development should not be undertaken.
D	II	New construction or development should not be undertaken unless a detailed analysis of noise reduction requirements is made and needed noise insulation features included in design.
E	III	New construction or development should not be undertaken unless directly related to airport-related activities or services.

	Community Response Predictions (in particular, the CNR)
I	Some noise complaints may occur, and noise may, occasionally interfere with some activities.
II	In developed areas, individuals may complain, perhaps, vigorously and group action is possible.
III	In developed areas, repeated vigorous complaints and converted group action might be expected.

It emerges from the above table that:

1. industrial uses disclose, as a rule, lower sensitivity to noise than residential and institutional uses and resemble, by and large, commercial/wholesale uses whose degree of sensitivity is near the bottom of the scale (4-5). The maximal noise levels these uses can stand is 115 NCR or 40 NEF.
2. Some specific industrial uses—Professional scientific & controlling instruments, records and amplifiers—would exhibit higher levels of sensitivity and go up to the middle of scale (3). In that they would resemble office buildings, shops restaurants, etc. and would stand maximal noise levels of 107 NCR or 35 NEF.

However, the above standards are considered to be right on the limit of "acceptability" and therefore a standard of 100 NCR or 30 NEF is recommended for new construction.



SITES 1, 2 & 3
ON TOCUMEN NOISE ISOPLETHS MAP

(d) **Noise Criteria for the IFZITA**

The standard 100 N[illegible] or 30 NEF has been applied as the bottom limit for screening areas within the Tocumen Airport which are appropriate for location of the IFZITA from Noise Exposure viewpoint.

(e) **Interference with airport radio signals**

Factories involved in the production of electronic instruments and the like(1) may interfere with the airport radio signals by emitting electronic waves while testing their products.

There are two methods for avoiding such risk:

1. By locating such factories at a distance of at least 1000 ft. from the runway(2).
2. By shielding the walls and roof of those factories by copper sheets in the case of strong magnetic fields.
3. By shielding the walls and roof with copper meshes in the case of weaker magnetic fields.

(f) **Summing up of Environmental Criteria for the IFZITA**

1. Limit of acceptable Noise Exposure	100 CNR or 30 NEF
2. Minimal distance from runway for factories emitting electronic waves	1000 ft or 330 M.

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(1) "Experimental Services (other than broadcast); radio devices Industrial, scientific and Medical equipment".
Source: Handbook entitled: Frequency Management Principles, Spectrum Engineering Measurements" dated May 29, 1969 issued by the Department of Transportation, Federal Aviation Administration No.6050.23.

(2) Other specialists in the field, involved in these topics in Panama-City state that the distance should be 3000f (1000M) and over. Source: U.N.Experts assisting the Direccion AERONAUTICAL CIVIL, in Panama.

7.1.3 Functional determinants

The functional integration of a Free Zone within an airport system depends on a wide range of factors:

1. Location in proximity to cargo terminal with no severance between the two and at a reasonable distance for trucking of goods while Cargo Terminal is kept at the shortest possible distance from runways.
2. Easy communication with other airport functions (passenger terminal, etc.)
3. Adequate accessibility by road (both to the Free Zone and to the Cargo Terminal)
4. Situation in relation to airport boundaries.
5. Size of about 55 ha.
6. Shape enabling the design of a functional layout.
7. Space for future territorial expansion.

7.1.4 Physical determinants

While the "Environmental" and "Functional" considerations determin the location of the Industrial Free Zone in relation to the Airport environment and functions the features of the site will finally indicate on the feasibility of such location.

Factors deemed particularly important are:

1. Topography almost flat with a gradient not exceeding 4%.
2. Soil conditions permitting economical foundations and economical solution for the ground floor.
3. Land ownership whether private or public presenting no difficulties and permitting prompt acquisition.
4. Area free of existing buildings and other "facts" or "objects".

7.2 Location of the IFZ/FTA

7.2.1 Alternative sites

(a) Site 1

The above criteria has been used for examining at the first instance the site proposed in the Parson's Plan for the Airport.

This site, captioned as "Site 1" in this study, has proved to possess less than half the required area and to have no expansion possibilities. It has also proved to be over exposed to noise; the isopleths map having indicated for this site noise levels exceeding by far 115 CNR designated as an area where "new construction should not be undertaken". Consequently, despite the other merits of this site alternative options had to be explored before any final conclusion could be drawn.

(b) Alternative sites

Alternative sites had to firstly possess sufficient land area - 55 ha - and to be clear of 100 CNR noise isopleths before they could be considered as possible candidates and looked into more closely.

In line with this approach two sites captioned as "Site 2" and "Site 3" have been examined.

Each of the above sites would, however, entail a new location for the Cargo Terminal.

(c) Site 2

This site is located on the Northern side of the Interamerican highway. It is framed by natural and man-made elements, which makes of it an entity:

the Tocumen River borders the site on the East
the Mananita stream - on the West
the old interamerican highway on the North
the present " " on the South

It also contains already a few industrial plants, hence, its appropriateness to become in future entirely allocated for industrial use.

The examination of this site by means of the criteria mentioned above had indicated a high compatibility with nearly all of them.

It presents however two drawbacks:

- it would require the bridging of the Tocumen River for getting road access to the Cargo Terminal

- the Cargo Terminal would require ultimately the bridging of the Tocumen River for getting to the access point (clover leaf) from the highway;
- it contains "objects" (buildings and other facts) that would necessitate solution.

Nevertheless, Site No.2 can be considered as having substantial "plus-factors".

(d) Site 3

This site is located further to the south of Site 2 above on the Southern side of the Interamerican highway.

It is located on the bend of the Mananita Stream which borders it on its Eastern and Northern Side.

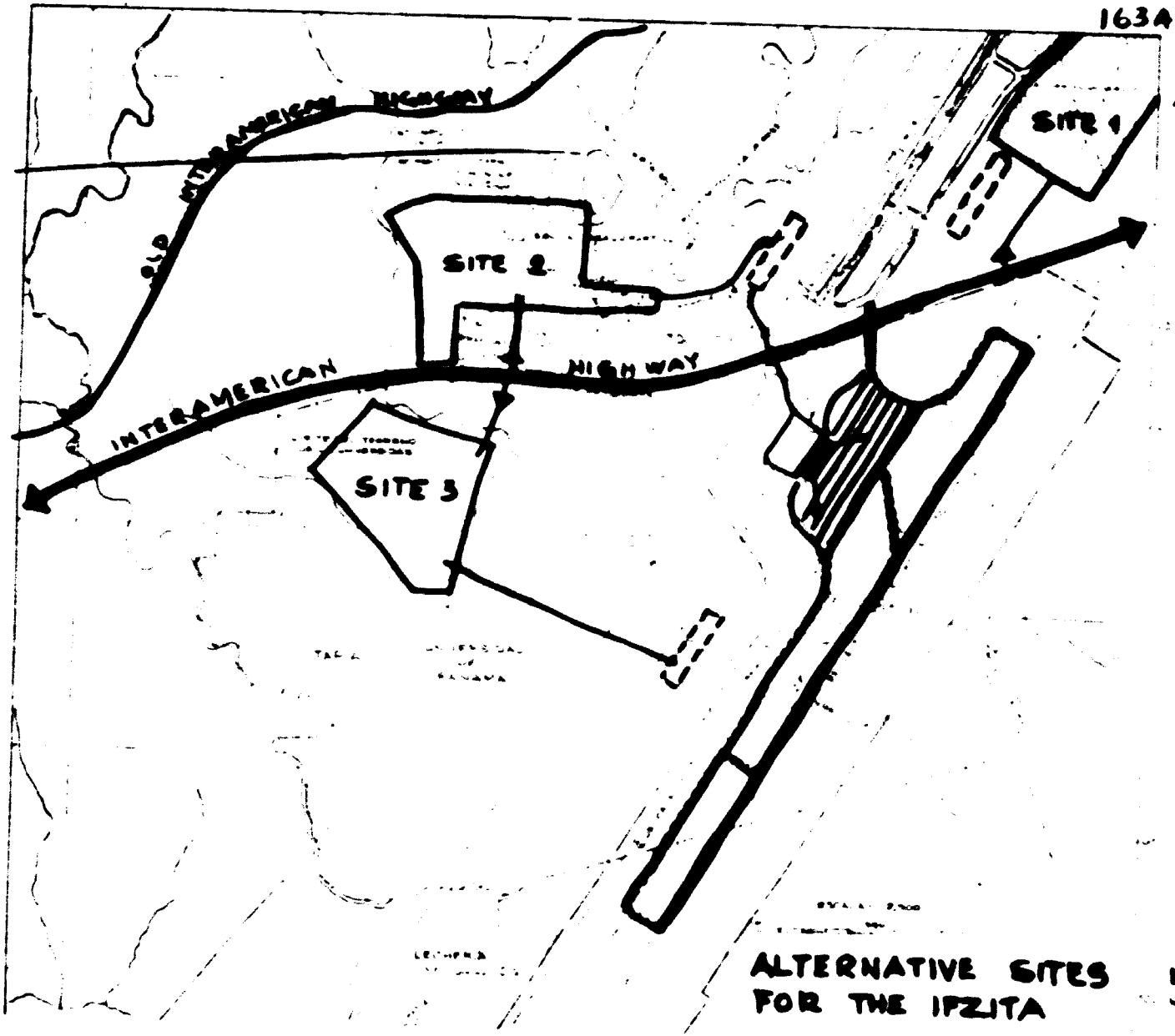
Another "small stream" branching of the Mananita river borders this site on its South and a new building for scientific experiments of livestock - on its West.
The site is free of any "Objects".

The examination by means of the above testing criteria has proved its compatibility with a part of them.

However, it has presented a considerable number problems:

- the size is only 33 ha - this being a serious handicap;
- the level of its road accessibility to the Zone and to the Cargo Terminal is inferior to that of Site 2;
- it requires bridging of the Mananita stream in getting access from the Interamerican Highway.

This site could reach the required size either by diversion of the "small stream" and its associated works or by bridging the Mananita stream for annexing a stretch of land. Both these solutions are expansive although in the latter a belt of landscaped water area could add a special character to the Zone.



ALTERNATIVE SITES FOR THE IPZITA 5

I.2.2 Sites' Analysis and choice

A scoring technique has been adopted in the testing process of Site 1, 2 and 3 measuring their compatibility with the criteria established above.

Site 2 has collected the maximal number of points inspite of its few limitations.

Site 2 is conceded to be the most viable option and is consequently recommended as the preferred site.

It is worthwhile mentioning that the above recommendation has been co-ordinated with the Parsons Corporation and has also met the favourable reaction of Aeronotica Civil.

For the detailed analysis and scoring see table 22 (page 133).

TABLE 21: ANALYSIS AND SCORING OF ALTERNATIVE SITES

Determinants	Criteria	Score: Determinant	Score: Criterion	Alternative Locations: Site 1 Compatibility	Site 1 Scores	Site 2 Compatibility	Site 2 Scores	Site 3 Compatibility	Site 3 Scores
Environmental	Location in an area whose noise exposure does not exceed 130 CNR (30 NEF)	27	9	0.9	8.1	0.7	6.3	0.8	7.2
	Location in an area whose air-pollution levels are acceptable (1)		9	0.9	8.1	0.8	7.2	0.7	6.3
	Location at a distance of at least 1000 feet from Airport Radio signals		9	0.9	8.1	1.0	9.0	0.7	6.3
Functional	Situation in relation to the airport boundaries	45	7	0.9	6.3	0.9	6.3	1.0	7.0
	Size of about 55 Hectares		5	1.0	5.0	1.0	5.0	1.0	5.0
	Space for future territorial expansion		4	1.0	4.0	1.0	4.0	1.0	4.0
	Road accessibility to the IFZ/FTA: in first phase		6	1.0	6.0	1.0	6.0	1.0	6.0
	Road accessibility to the IFZ/FTA: in second phase		4	1.0	4.0	1.0	4.0	1.0	4.0
	Cargo offices: in first phase		4	1.0	4.0	1.0	4.0	1.0	4.0
	Cargo offices: in second phase		2	1.0	2.0	1.0	2.0	1.0	2.0
	Proximity to Cargo Terminal with severance between the two		4	1.0	4.0	1.0	4.0	1.0	4.0
	Easy communication with other airport functions		3	1.0	3.0	1.0	3.0	1.0	3.0
	Shape which can be adapted to a functional layout		4	1.0	4.0	1.0	4.0	1.0	4.0
Physical	Topography	25	4	0.8	3.2	0.8	3.2	0.8	3.2
	Soil condition		4	0.9	3.6	1.0	4.0	0.8	3.2
	Land ownership, prospects for prompt acquisition		3	1.0	3.0	1.0	3.0	1.0	3.0
	Area free from existing objects preventing functional layout		5	1.0	5.0	0.9	4.5	1.0	5.0
	Area containing negotiatable "objects" involving known procedure		5	0.9	4.5	0.8	4.0	1.0	5.0
	Total Scores	100			89.5		84.0		91.2

(1) No study has been carried out, as yet, for Toulouse Airport. Above assumptions have been established after consultation with experts.

(2) Acceptability to [illegible] arising out of the International Air Highway.

(3) This compatibility is due to the [illegible] of a bridge.

7.3.1 Layout determinants

(a) General

Features of the site considered as determinants for the IFZITA layout are the following:

1. Existing objects
2. Topography
3. Soil condition

(b) Existing "Objects"

As mentioned above the only drawback presented by the recommended site for the IFZITA has been the existing "Objects", within its confines.

Consequently, it was deemed essential to develop an approach in respect of this issue prior to any design work.

The objects included with the site in question are the following:

1. IFARHU - training institute
2. MIRAFLORES - factory for cement pipes
3. DIGEDECOM - Governmental Agency for Community development
4. MARTINEZ - plant for maintenance - repair of heavy equipment.
5. J. PARDOS - stacking yard belonging to a construction firm.
6. FARM.

These objects would fall into two categories:

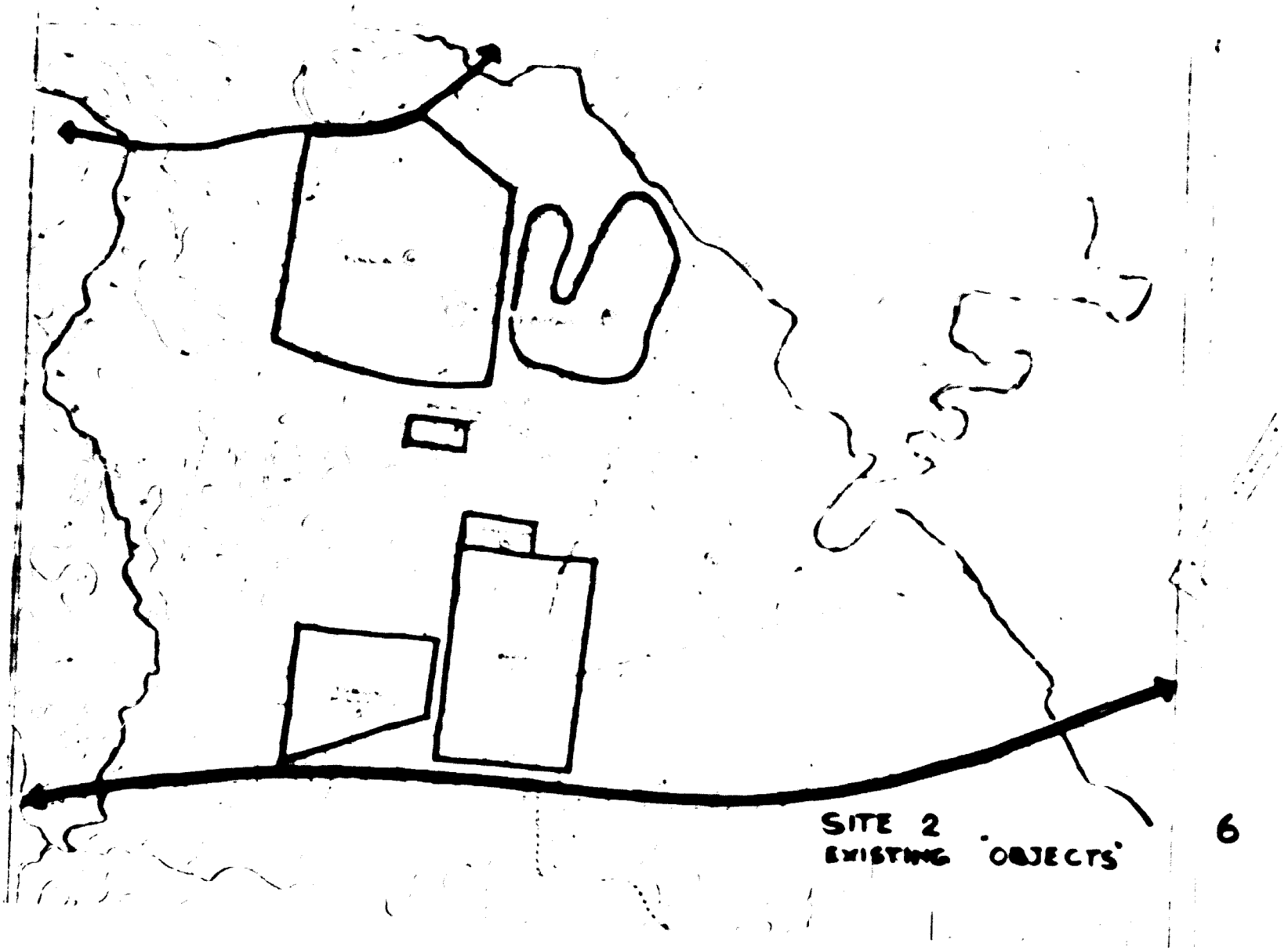
The first category:

would include IFARHU, MIRAFLORES, J.PARDOS and the FARM.

These objects extend on large land areas situated on the periphery of the site. Their exclusion from the site, seem therefore, to involve no more than slight boundaries' adjustment which, to the best of our judgement, would pose no particular problem.

The second category:
would include DIGEDECOM & MARTINZ which while extending on small land areas are situated, though, in the heart of the site.

These would no doubt present a more complicated problem due to the fact that non-conforming use are strictly prohibited in a Free Zone for obvious reasons.



SITE 2
EXISTING 'OBJECTS'

The [illegible] of this problem can be sought in two directions: either design a layout [illegible] and then negotiate them out. The [illegible] is likely to largely [illegible] view of the central location [illegible] the 'objects'. As [illegible] the latter does not seem to be [illegible] to the fact that DIEDERICH [illegible] Experimental Institute and MARTINEZ [illegible] firm involved in [illegible] depends [illegible] on the [illegible] remainder of its [illegible].

[illegible] to assert this. [illegible] alternative layouts [illegible] have been attempted.

(c) Topography

The [illegible] of the site [illegible] and [illegible] between (+1) and (+35). [illegible] 'Longitudinal' sections in the site have been levelled.

At present the area extending from the Tocuyen-Tacarigua river [illegible] up to the place where the [illegible] of the PARK & MIRAFLORES [illegible] has already been levelled with a [illegible] up. From this point on [illegible] stream the land's [illegible] have not been touched as yet. The [illegible] between them the one described [illegible] of 4-5 meters exists between them.

The soil which is mainly of Tosca (soft rock) presents no problems of levelling and there is already an agreement between the Parsons Corporation and the Aeronautica Civil to excavate from this site earth for development works in the Airport on their account.

In this connection it is strongly recommended to the Government to keep an eye on this operation in order to secure that earth removals from this site should not exceed the permitted level as indicated by the IPZITA layout plans. Pitholes and other extensive excavation requiring refilling later on, would cause serious damage to the ground floors of factories besides putting up construction costs.

2.3.2 Alternative Layouts

(a) General

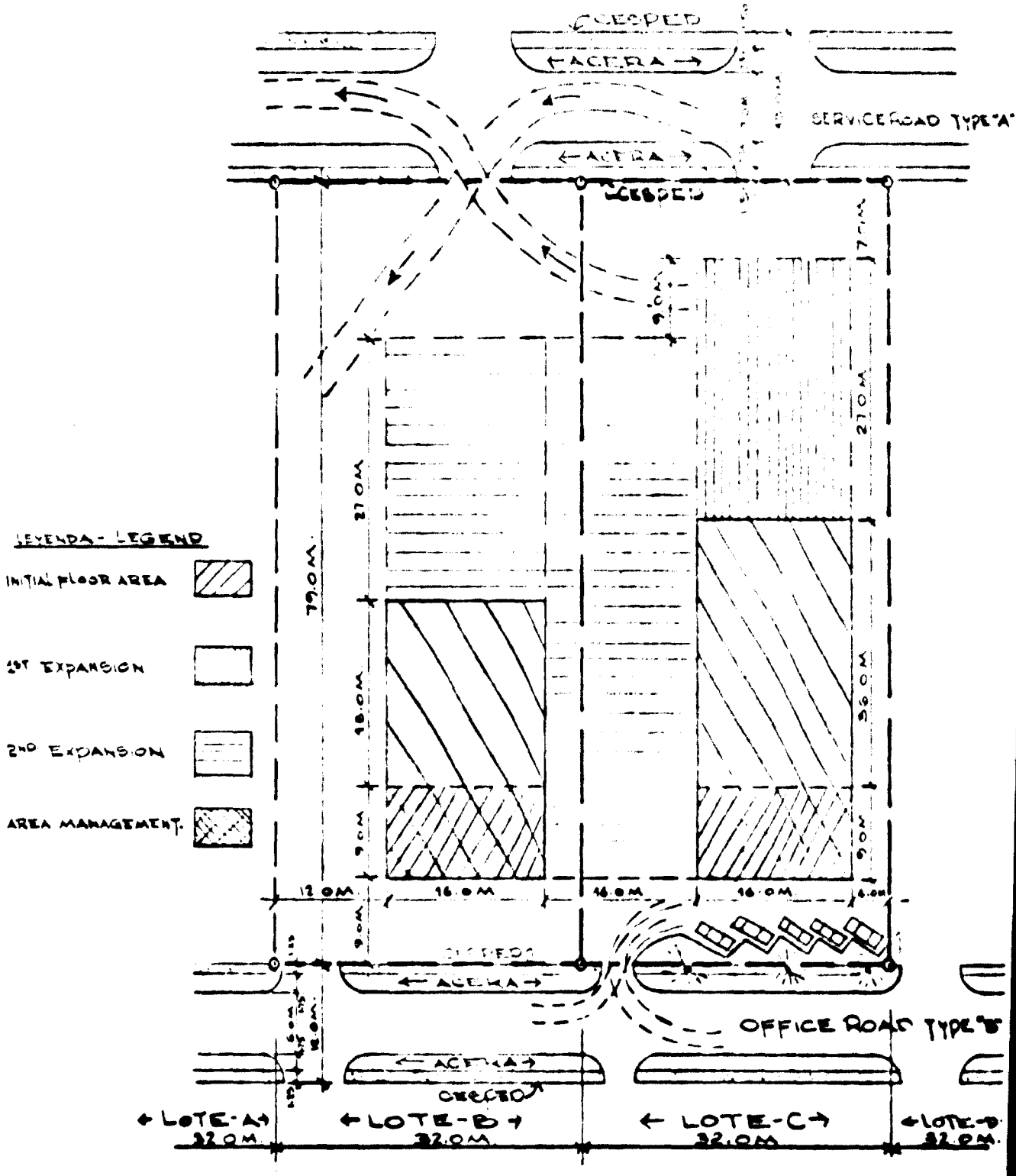
Taking into consideration the above determinants three alternative layouts were designed; two of which have taken opposite extremist views in respect of the "Sensitive Objects" DIGFEDECK & MARTINZ - the third making an attempt for co-existence.

(b) Planning Principles

Planning principles, common to all layouts are as follows:

1. lots should be serviced by a front and rear roads;
2. the Standard Buildings' long walls should face North & South;
   a) to minimize sun heat;
   b) enjoy northern light (with no sun rays)
   c) enjoy northern prevailing winds;
3. all lots should have fronts & rears facing East and West;
4. lots' and buildings' frontages should be modular - 32 M. and 16 M. respectively;
5. space between building should be also modular - 16 M. - to enable an orderly easy and economical expansion;
6. the Zone's Main Road should provide a direct link between the centre of the Zone and the Cargo Terminal;
7. the Zone should have along its boundaries a "watch & ward" road;
8. the Zone should include, besides industrial uses, administration, common services, recreation, department store and supermarket, and bus station;
9. wood area along the Tocumen River to be preserved.

[illegible] Layouts A, B and C mentioned in this section are [illegible] 1974.



STANDARD LOT 4 FACTORY 7

EXPANSION OPTION

(c)Layout A Transfer of "Sensitive Objects"

Assumptions:

1. The "Sensitive Objects" DIGEDICOM & MARTINZ can be transferred.
2. Marginal boundary adjustment to IPARHU, MIRAFLORES & J.PARDOS lots would pose no problems.
3. Land levelling required by the plan would pose no problems.
4. Soil conditions over the entire area adequate for construction.

Situation of plan within the site

The plan extends from the Wood in the east to the Mananita river in the West and to the J.PARDOS and the PARK properties in the North. On the south, it is bordered by the IPARHU & MIRAFLORES properties and further on by the Interamerican Highway.

Boundaries

The plan's boundaries involve, thus, marginal adjustments to lots of the above bordering properties; each property is offered contiguous land for compensation.

Size

The plan covers 55 Ha approximately.

Road Pattern

The road network forms a grid pattern in which the large roads are the servicing roads and the narrower ones provide for accessibility to the management section of each factory.

Access to the Zone is provided by an existing road (unpaved at present) branching off the Interamerican Highway which is to be enlarged and obviously paved and landscaped to perform its new role.

This road stretches between the IPARHU and MIRAFLORES properties and allows access to them and continues to meet the boundary of the Zone and from thereon to the intersection with the Zone's Main Road.

The Main Road of the Zone runs in East West directions and leads eastwards to the Cargo Terminal.

Two loops branching off this Main Road constitute the servicing roads to the entire area.

Along the boundaries runs a "watch and ward" road which serves at the same time front access to factories.

The above Access road will be substituted after 1985 by a new one branching off the multi-level intersection that is envisaged on the Interamerican Highway.

Land uses

The public facilities are situated along the Main Road: the IFZITA AUTHORITY administration centre and the Common services buildings near the intersection with the Access Road and further to the West the bus station, shopping and a large recreation area.
Individually designed factories also face this road to provide for attractive architectural appearance.

Factories emitting electronic waves are located in the Western part of the plan to achieve maximal distance from runways.

(d)Layout D

Assumptions

1. The "Sensitive Objects" DIGEDECOM & MARTINZ cannot be transferred; the FARM can be changed to industrial use (due to its temporary agricultural nature).

2. Marginal boundary adjustments to IFARHU & MIRAFLORES would cause no problems.

3. Land levelling required by the plan would cause no problems.

4. Soil conditions are adequate for construction in a large part of the area. Soil problems presented by the agricultural area can be overcome.

Situation within the site

The plan has a T shape, the principal part of the Zone is located on the longitudinal section at the West of the site, riparian to the Mananita stream, leaving thus, its major part unused in trying to avoid the "Sensitive Objects" DIGEDECOM & MARTINZ; from this part stems eastwards a narrow strip - the Cargo Terminal.

From this part stems a narrow strip to the east including administration and public facilities only with view to create a certain continuity towards the Cargo Terminal.

- . . -

Boundaries The plan's boundaries involve:

- marginal adjustments to the IFARHU & MIRAFLORES properties similar to those incurred by Layout A
- inclusion of a large part of the FARM's area.

Size The plan covers 58 ha. approximately.

Road pattern The road network is in principle similar to that of Layout A in terms of the grid pattern, the access & Main Roads, the servicing and front roads, the loops etc, the only difference being the shape of the loops.

Land uses Land uses also are much similar to Layout A.

(e) Layout B co-existing with "Sensitive Objects"

Assumptions

1. The "Sensitive Objects" DIGEDECOM & MARTINZ cannot be transferred (similar to Layout D).

2. Marginal boundary adjustments to IFARHU, MIRAFLORES & J.PARDO lots' would pose no problems (similar to Layout A)

3. Land levelling required by the plan will pose no problems (similar to Layout A)

4. Soil conditions over the entire area adequate for construction; (similar to Layout A)

Situation This plan situates the Zone on the same Area as Layout A with the only difference of leaving DIGEDECOM & MARTINZ as enclaves in the Zone.

This attempt shows clearly the disruption that may be caused to the layout by such an approach, in terms, of discontinuity in the Zone's area, poor accessibility to both the "Objects and the part of the Zone's area behind them.

Boundaries The difficulties caused by this approach to the Zone's boundaries are also substantial. The attempt to wind around DIGEDECOM & MARTINZ, results in a distorted boundary which may stand in the way of an efficient 'Watch & Ward' routine.

Size Approximately 55 ha.

Road Pattern: Although having been able to keep the same Access Road and Main Road described in Layout A and the grid pattern character, the roads on the whole have produced a disrupted network in their strife to wind around the "Objects" in question.

The northern loop is arbitrarily disconnected causing ambiguity, confusion and poor functionality to the network as a whole.

Land Use — Similar to Layout A.

7.3.3 Layouts' analysis & choice

Although the superiority of Layout A is quite obvious and appears to advocate for the relocation of DIGEDECOM & MARTINZ, an attempt was made to examine this judgement by means of a scoring technique with view to get to a more objective decision.

The Layout A, D and B have been examined and scored by means of the following criteria:

1. The "quality" of the layout in planning terms;
2. the layout's compatability with the natural features of the site;
3. the layout's achievement in resolving the conflict arising from the "Sensitive Objects".

This analysis has thrown light not only on the fact that Layout A proves, indeed, to be the best solution but also that Layout D can be considered inspite of its handicaps a second best in case of incurring insurmountable problems with Layout A.

It also indicates that Layout B should, preferably, be avoided. On conclusion, Layout A is recommended. However, had this solution incurred difficulties alternative option should be sought along the lines of Layout D.

TABLE 22: ANALYSIS AND SCORING OF ALTERNATIVE LAYOUTS

Determinants	Criteria	SCORE		Alternative Layouts			
				Layout B		Layout [illegible]	
		Determinant	Criterion	Compatibility Score		Compatibility Score	
The layout's Quality	Situation	50	5	0.5	2.5	0.9	4.5
	Boundaries		15	0.8	12.0	0.1	1.5
	Road pattern		15	0.8	12.0	0.1	1.5
	Shape		15	0.8	12.0	0.1	1.5
Compatibility with natural features of the site	Topography	25	10	0.4	4.0	0.8	8.0
	Hydrography		10	0.1	1.0	1.0	10.0
	Soil		5	0.4	2.0	1.0	5.0
A chievement in resolving the conflict-arising from the "Sensitive Object"		15		1.0	15.0	0.6	9.0
Distance from Cargo Terminal		5		0.6	3.0	0.9	4.5
Total Scores		100			65.5		47.0

7.3.1 Land use distribution in the Recommended Layout

Total gross area	96.33 ha.	=	100.0%
Industrial lots	36.09 ha.	=	64.1%
Roads	14.41 ha.	=	24.1%
Fire control station	0.55 ha.	=	1.5%
Administration	2.20 ha.	=	4.0%
Recreational/open space	1.42 ha.	=	2.5%
Amenities	0.57 ha.	=	1.0%
Sewage treatment plant	1.87 ha.	=	3.3%

7.4 Strategy of Implementation

7.4.1 Phasing

The strategy of a phased implementation for the Zone, which was put forward in the discussion "Types of Manufacture" (see Chapter Three 2.2.5), should find its parallel in the physical plan.

Consequently, it is suggested for the Zone to be developed in two phases:
In the first phase, the section at the core of the plan should be developed from the west boundary of the "Sensitive Objects" westwards. This would allow co-existence with DIGEDECOM and MARTINZ without causing any disruption to the road network on the one hand, and would allow sufficient time for their relocation elsewhere.
In the second phase, with the development of the remaining sections - the eastern including the DIGEDECOM & MARTINZ sites and the western and northern peripheries - the Zone will attain its ultimate size.

7.4.2 Implementation Issues

(a) Feasibility

The main issues that arise in examining the feasibility of the recommended Layout (LayoutA) are the following:

1. procedures for land acquisition (whose major part is in private ownership)
2. negotiations with DIGEDECOM & MARTINZ

In respect of the first issue, owners have been already approached by correspondence. No negative reactions have been received. Land acquisition can be, therefore, regarded as feasible.

In respect of the second issue, there is reasonable certainity for DIGEDECOM - a governmental institution - to be convinced to move to another location; concurrently, one can assume that MARTINZ may also be convinced in view of its close working contracts with the Government.

The Government should delegate powers to the IFZITA AUTHORITY to proceed with the necessary negotiations.

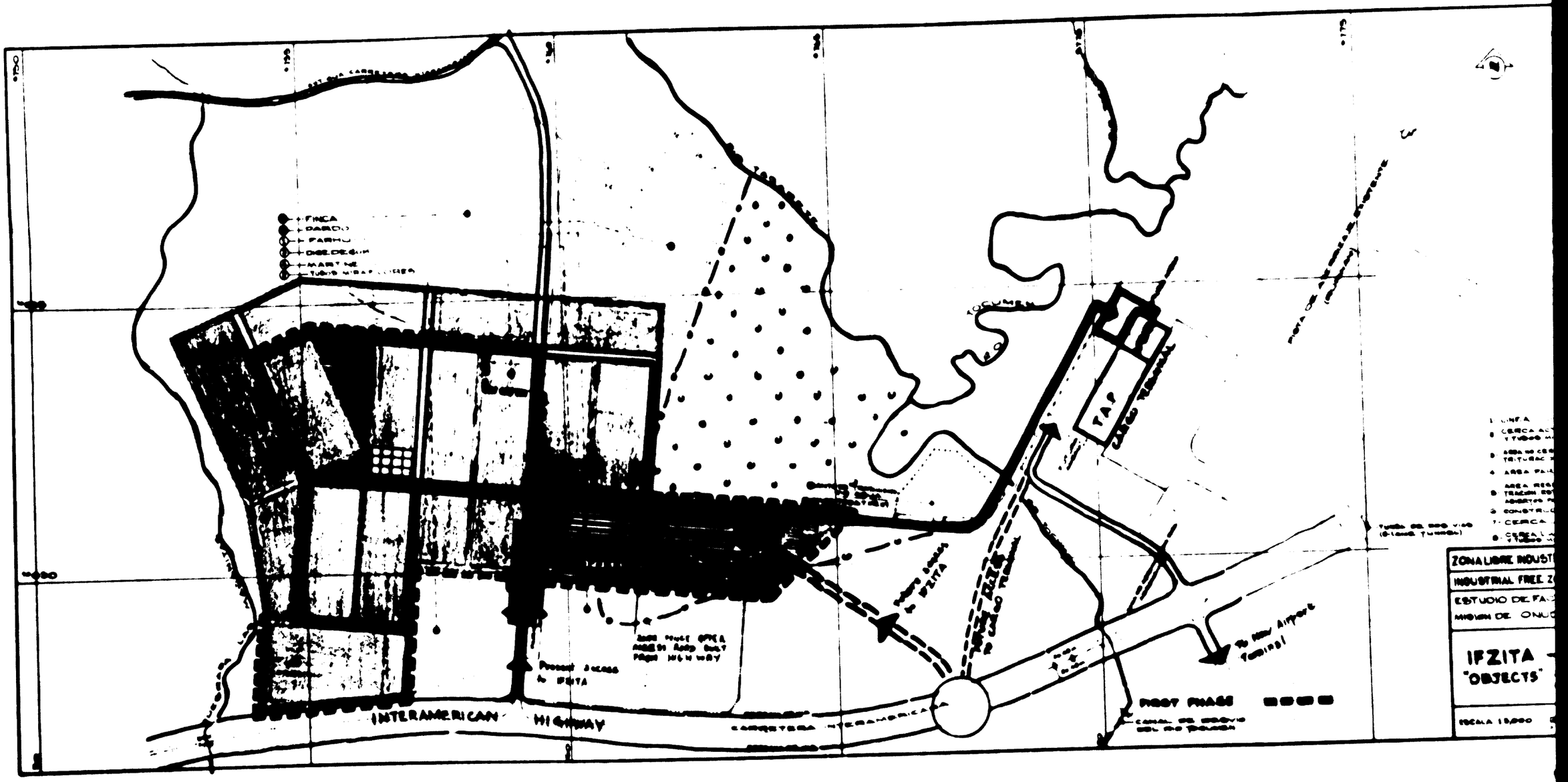
(b) Courses of action

The courses of action implied in the implementation of the Recommended Layout would be the following:

1. Negotiations, with DIGEDECOM with view to explore the following compensation options:
   - provision of a new land area and buildings similar to those it possesses at present;
   - provision of a financial compensation respective to the value of their property.

   The allocation of this area for development in the second phase had the deliberate intension to allow sufficient time for the relocation process

2. Negotiations with MARTINZ intended to examine the following compensation options:
   - provision of a new land area in proximity to the present one;
   - provision of financial compensation: for dismantling the roof sheets and the metal construction of the existing sheets and for mounting them in the new location;
   - for construction parts which cannot be transferred (walls, concrete pillars & floor, concrete pits, etc.);
   - for the office
   - for dismantling and mounting fence and gate.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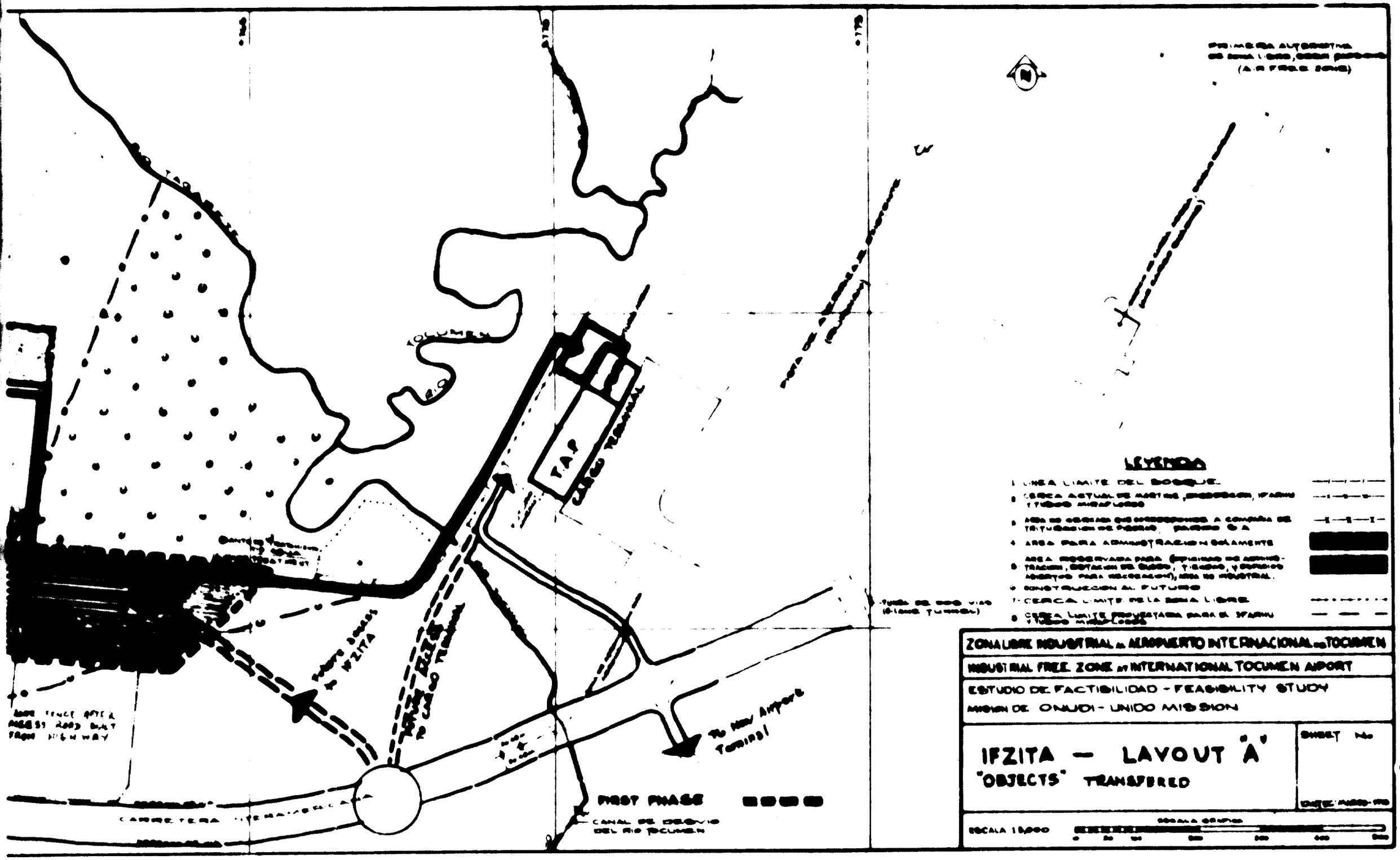
IFZITA
"OBJECTS"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MISION DE ONUDI - UNIDO MISSION
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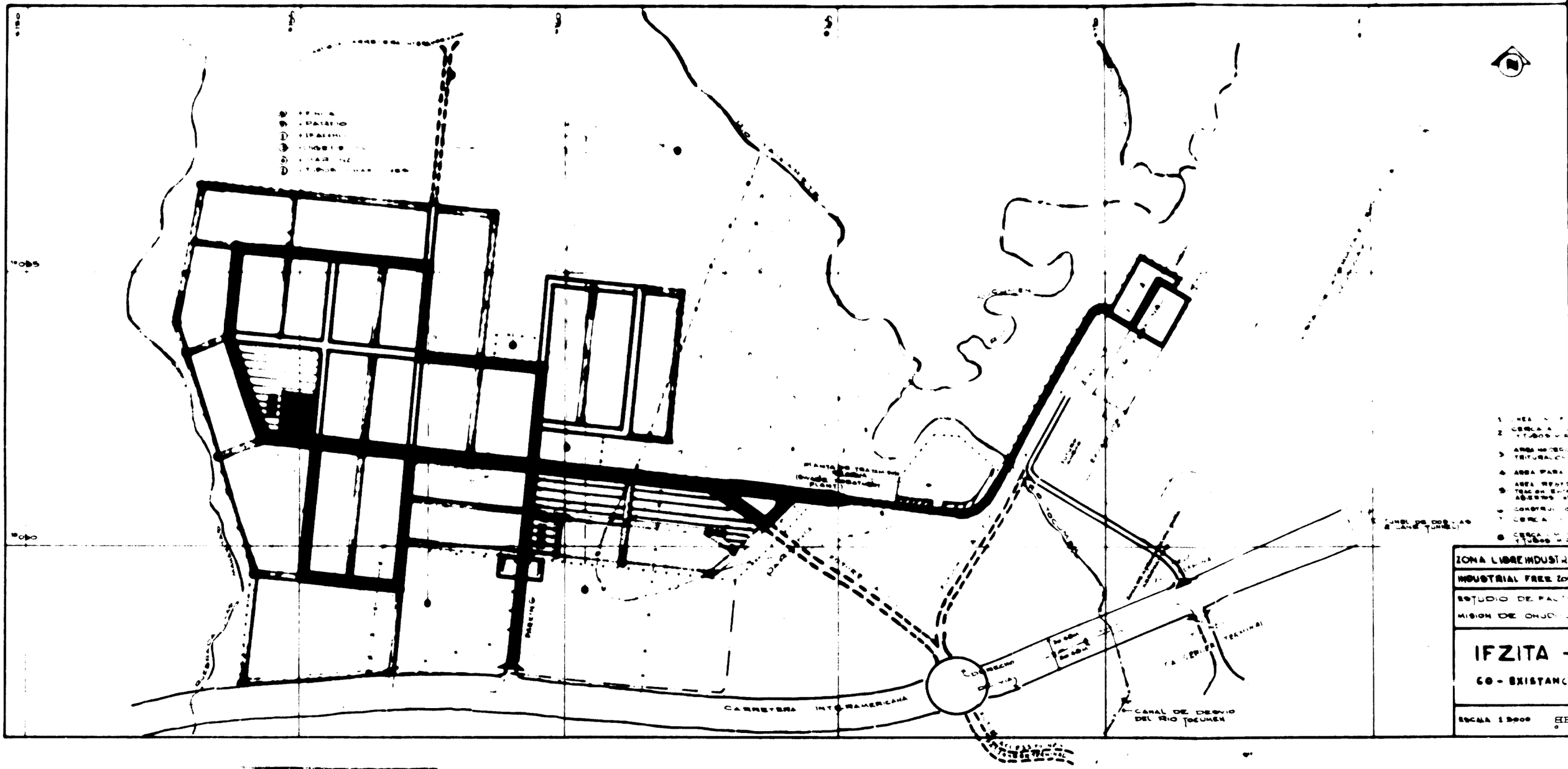
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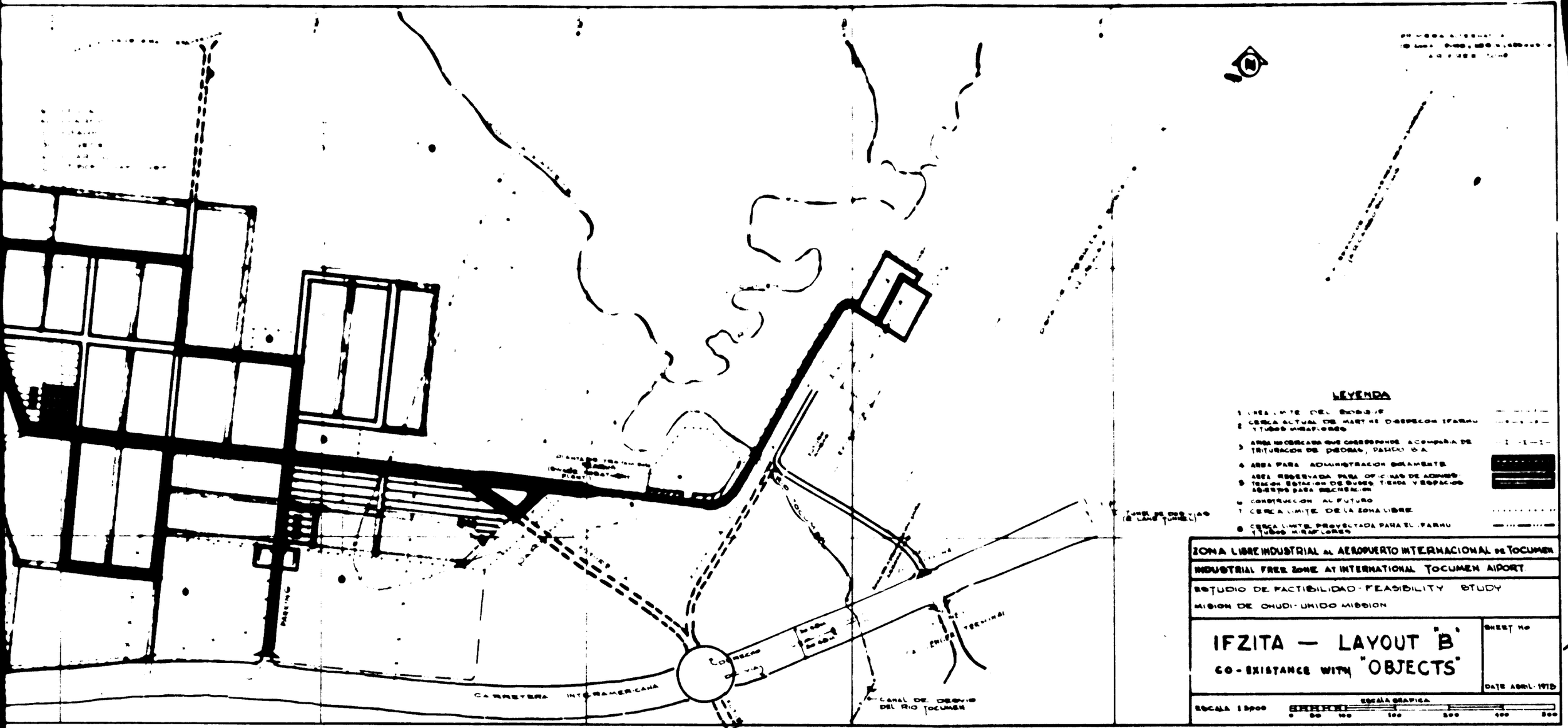
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3 AREA NO CERCADA QUE CORRESPONDE A COMPAÑIA DE TRITURACION DE PIEDRAS, PANAMA S.A.
4 AREA PARA ADMINISTRACION SOLAMENTE
5 AREA RESERVADA PARA OFICINAS DE ADUANAS TERMINAL ESTACION DE BUSES TIENDA Y ESPACIOS ABIERTOS PARA RECREACION
6 CONSTRUCCION AL FUTURO
7 CERCA LIMITE DE LA ZONA LIBRE
8 CERCA LIMITE PROYECTADA PARA EL FARNU Y TUBOS MINIFLORES
ZONA LIBRE INDUSTRIAL AL AEROPUERTO INTERNACIONAL DE TOCUMEN
INDUSTRIAL FREE ZONE AT INTERNATIONAL TOCUMEN AIRPORT
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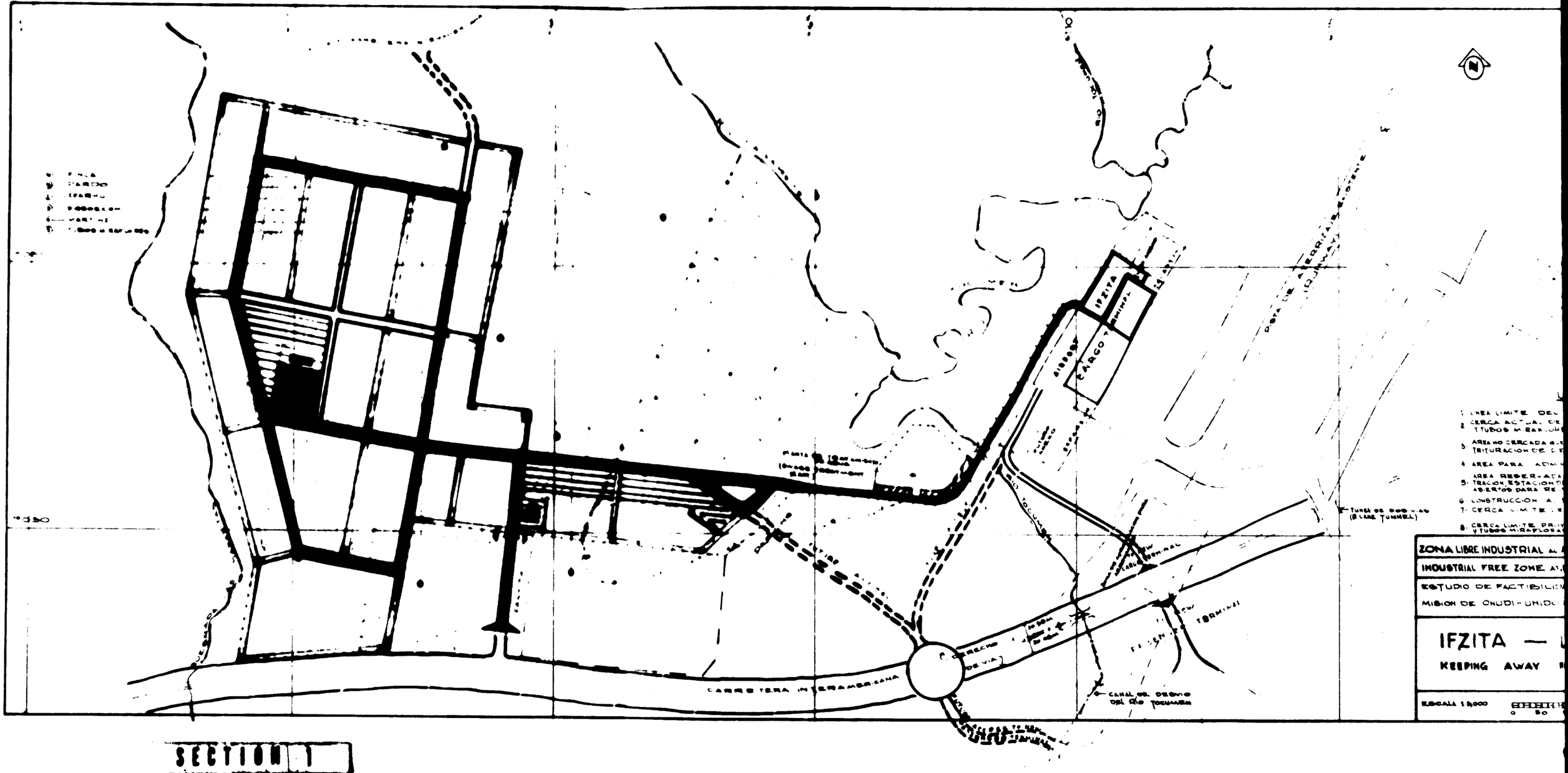
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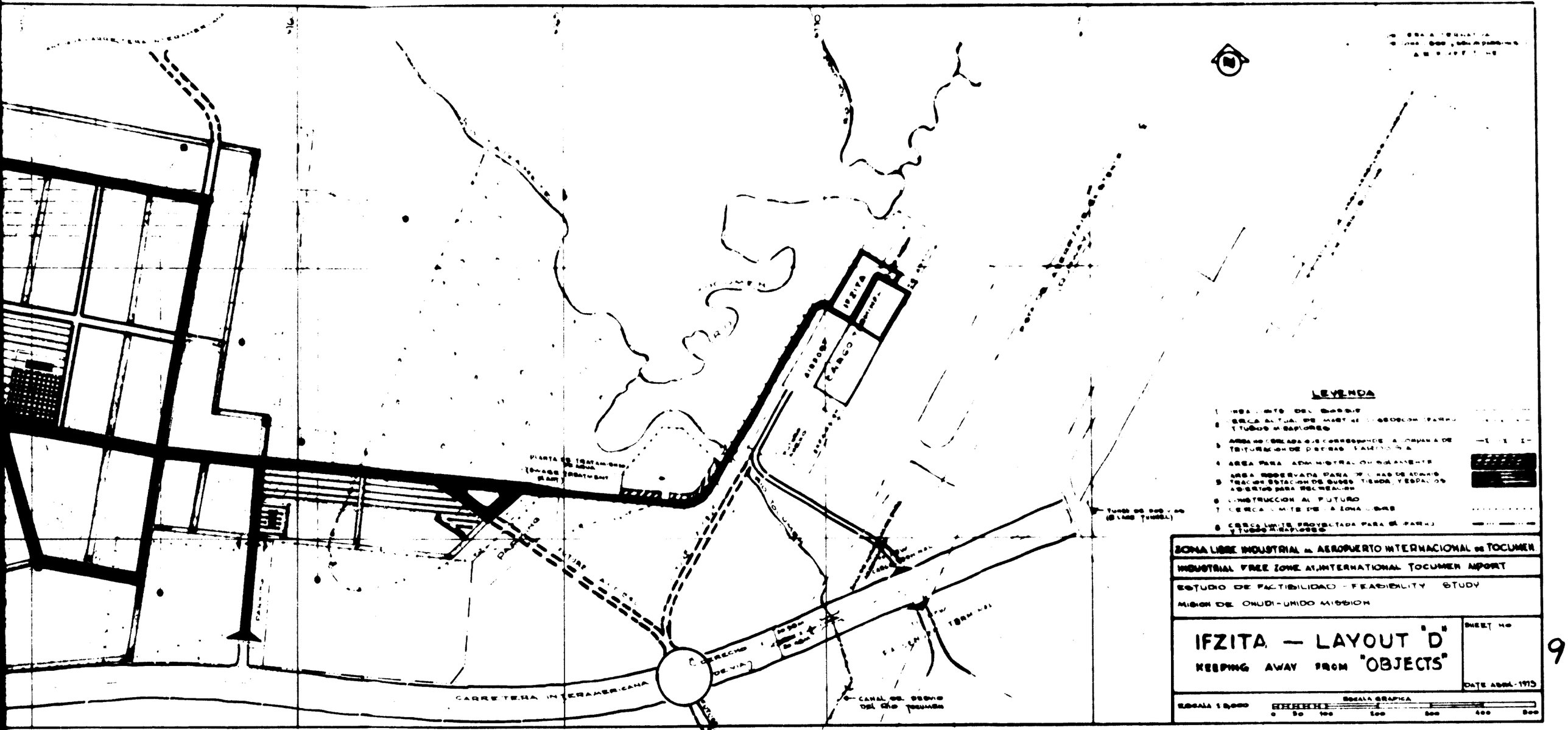
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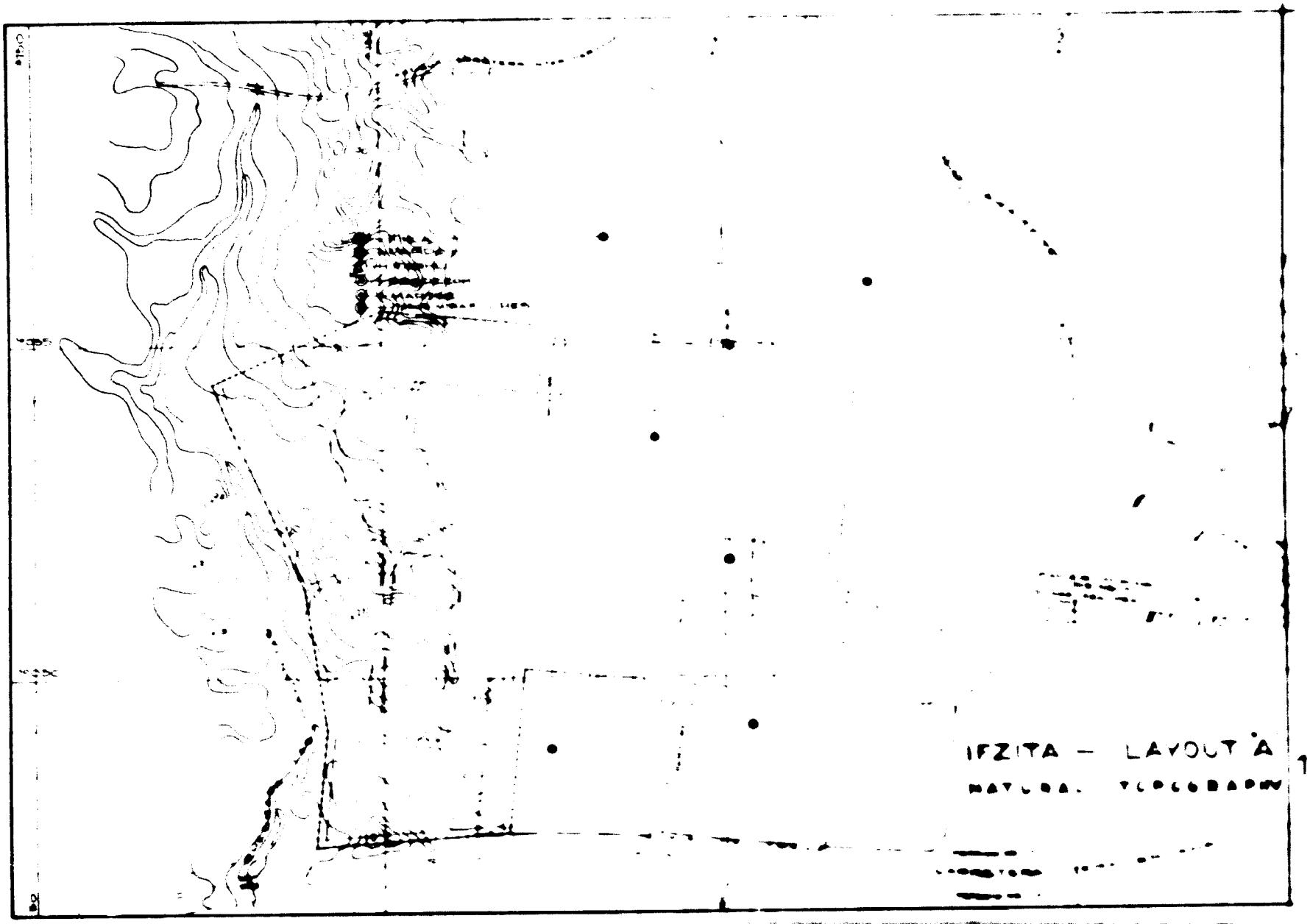
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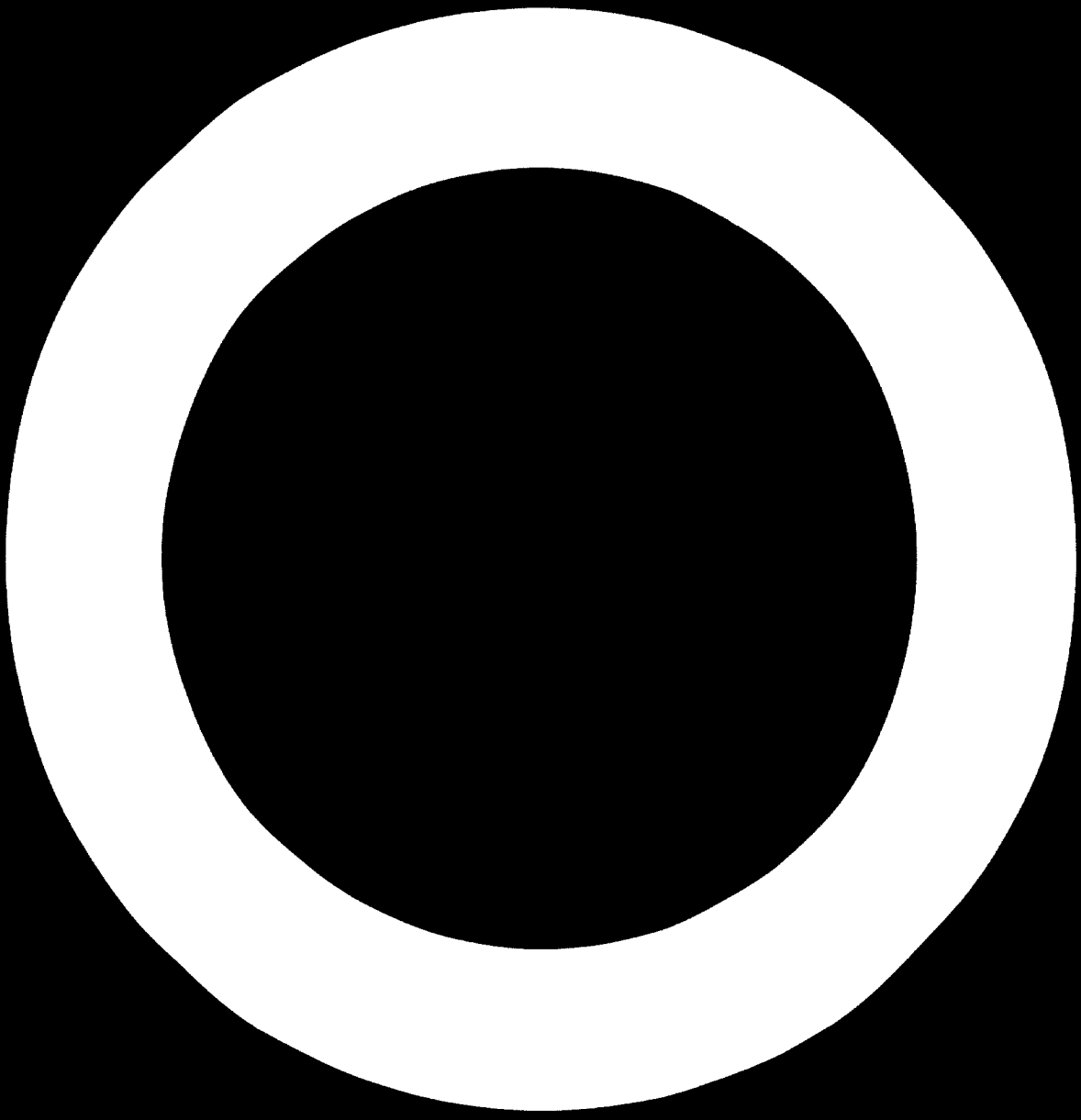

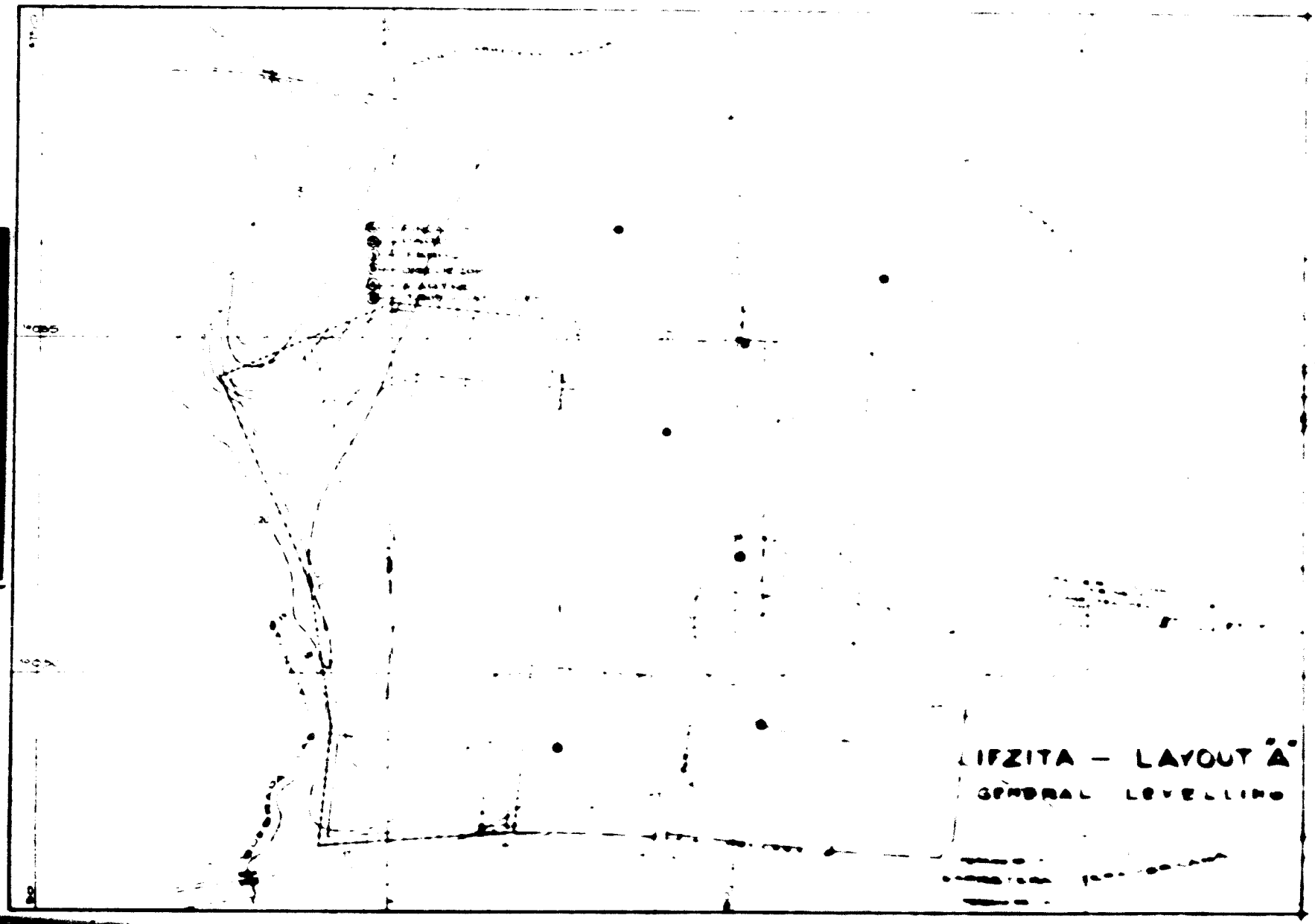
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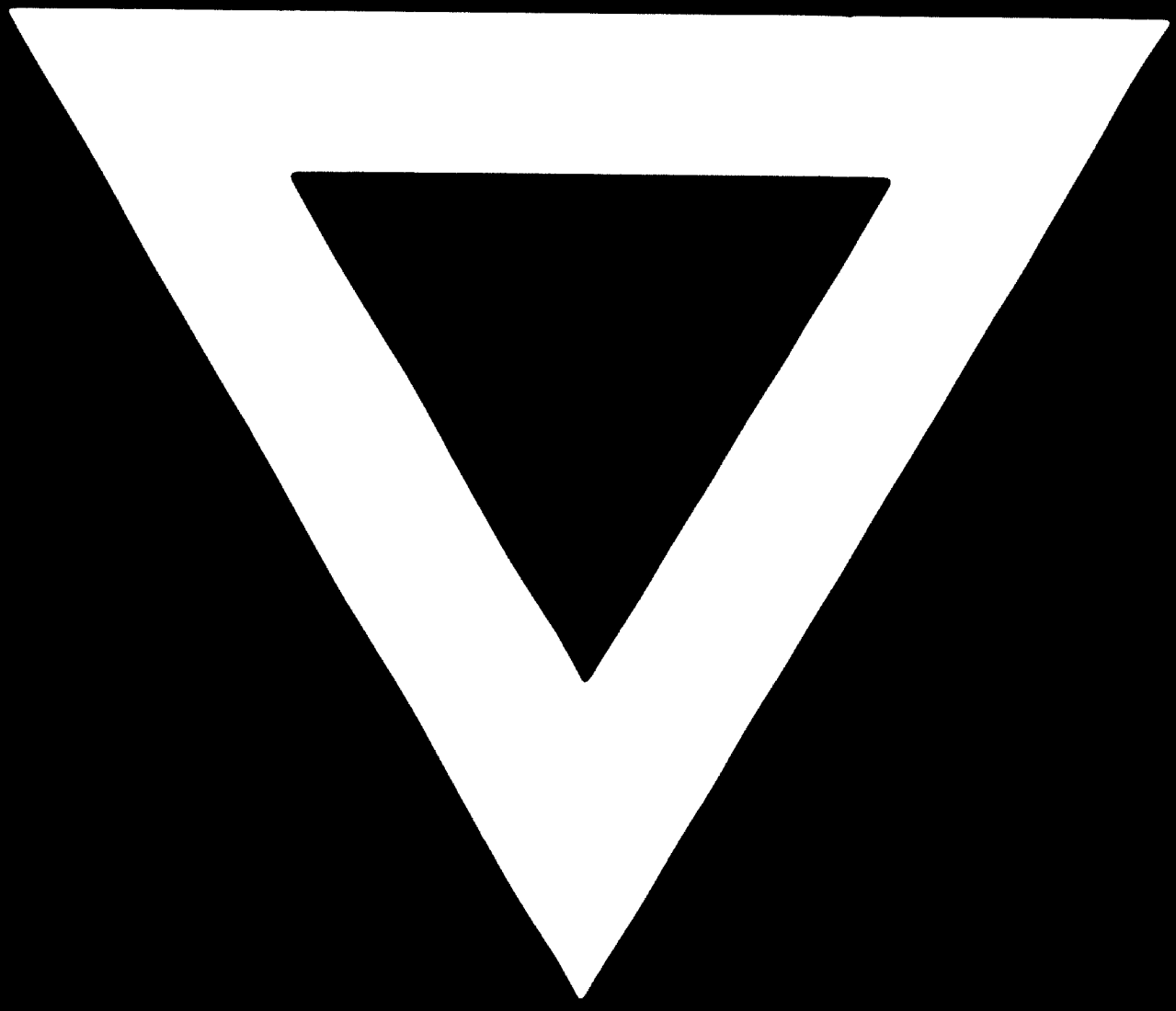

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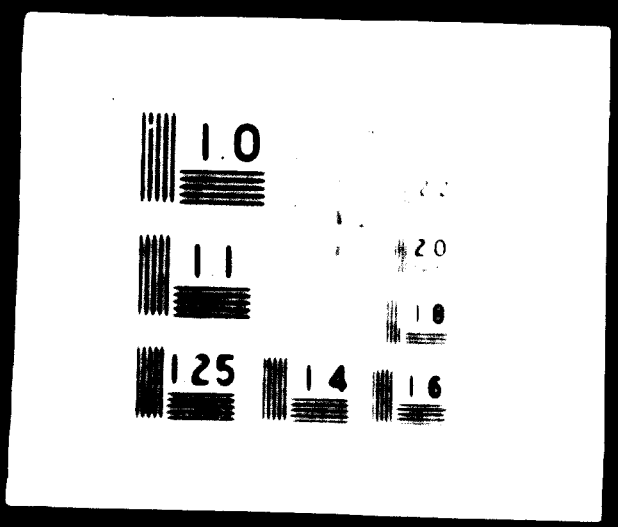

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Addendum

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ESTABLISHMENT OF AN INDUSTRIAL FREE ZONE AT THE TOCUMEN INTERNATIONAL AIRPORT PANAMA[1]

by

Arie Cohen
UNIDO Expert

US/PAN [illegible]/Add.1)

(PART ONE) UNIDO/TCD.226 **SUMMARY** - Bibliography, Acknowledgements, Terms of Reference, Introduction, Conclusions and Recommendations

(PART TWO) UNIDO/TCD.226 - The Socio Economic Context (Synopsis)
- The IFZITA Project

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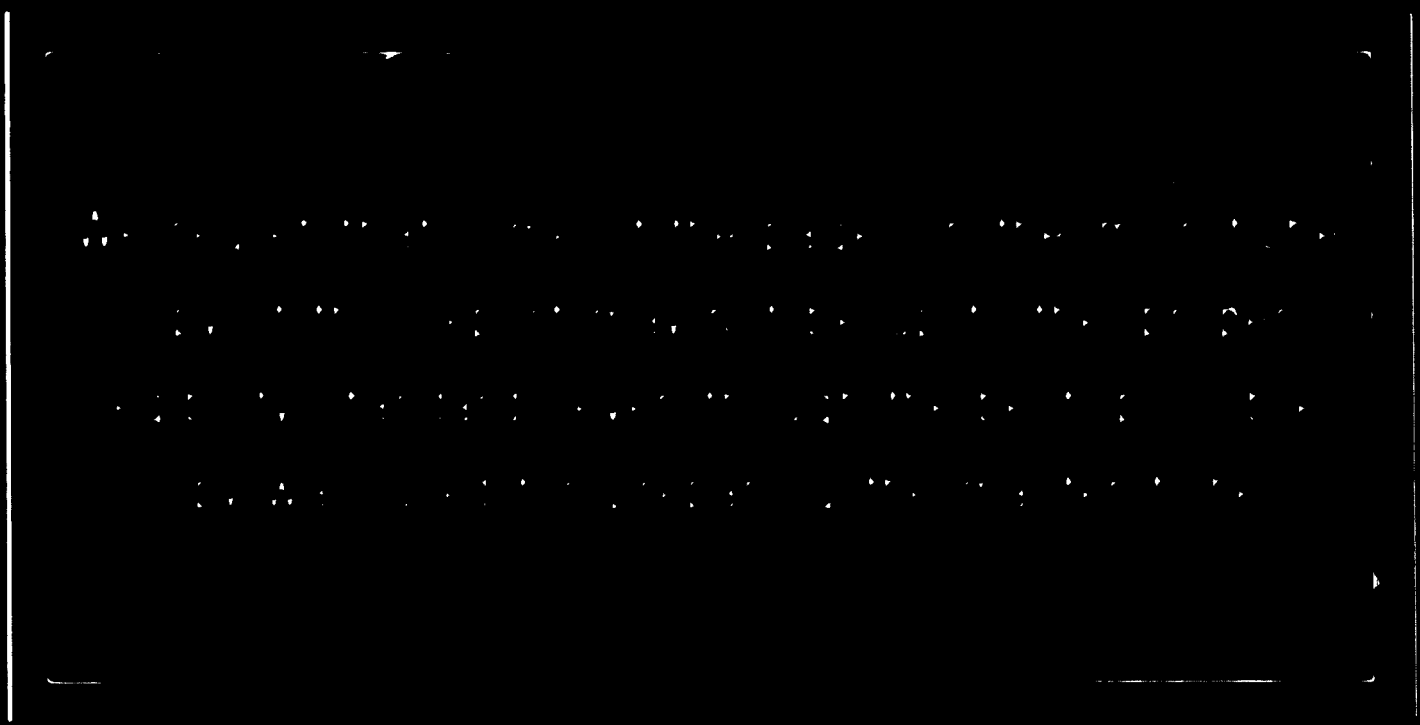

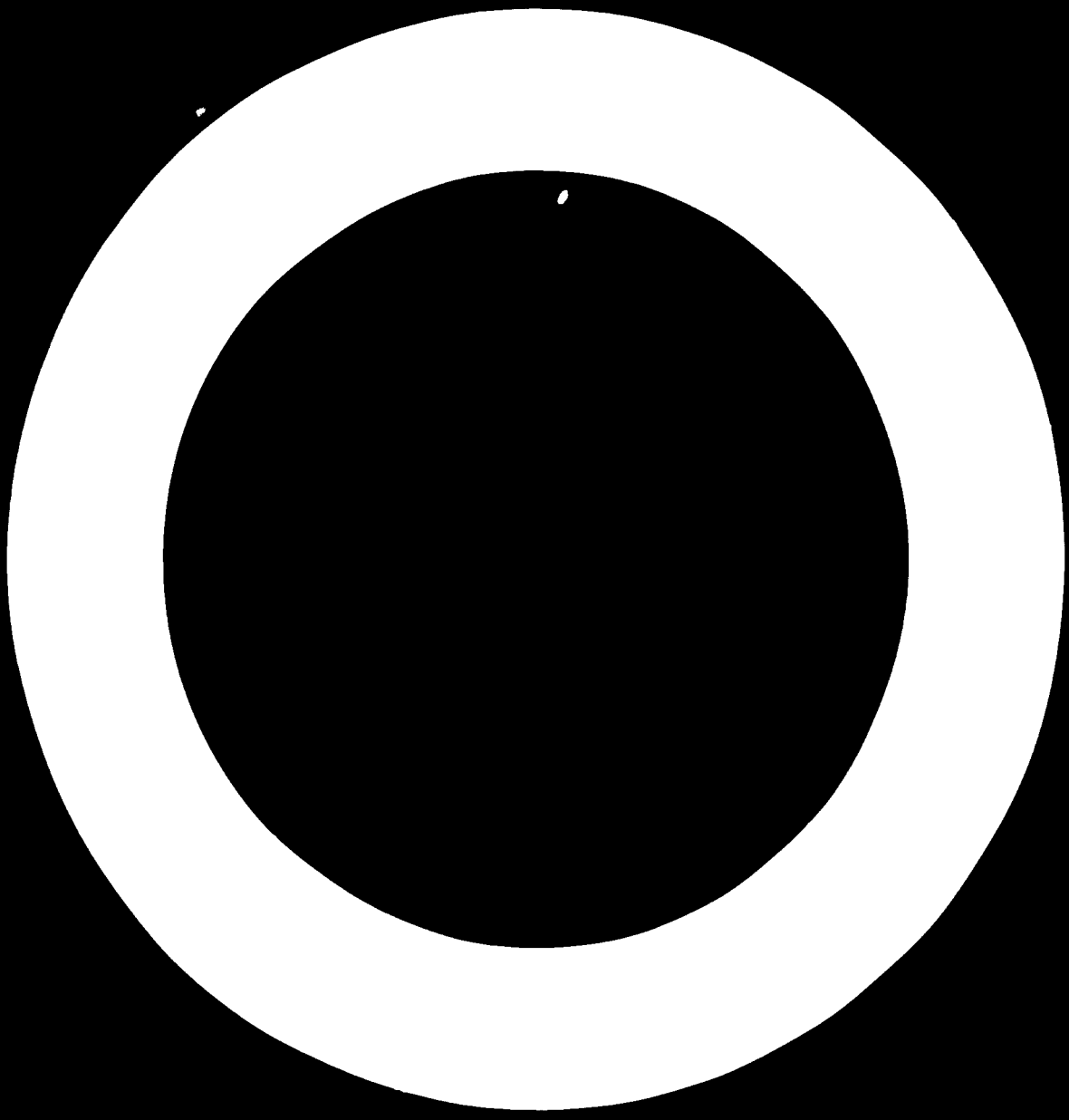

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Page

1. Population, Income and Industrial Distribution
2. Employment and Unemployment
3. The Gross Domestic Product - GDP
4. The Industrial Manufacturing Sector
5. The Balance of Payments
6. Currency and Credit
7. Investments
8. Imports and Exports
9. The Canal Zone
10. The Colon Free Zone
11. The Tocumen Airport

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THE SOCIO ECONOMIC CONTEXT (DETAILED)

1. **Population Growth and Spatial Distribution**

1.1 Trends in the Geographical Distribution 1960-1970

The Republic of Panama has a current population of 1.5 million inhabitants (1972) and over 75,000 sq.km. of land area*.

50% of this population is clustered in the Metropolitan area** which covers only 10% of the country's territory.

Uneven populational distribution is also symptomatic of the Metropolitan Area where the Province of Panama which extends over 25 % of its area contains 80% of its population. In addition, the Province of Panama represents a populational node at the national level by concentrating 40% of the country's population.

Features of polarity are discernable in the city-size distribution. Panama City with 418,000 inhabitants comprises about 60% of the population situated in the nine major urban centres of the country; it dominates a stratum of small towns ranging from 67,000 people down to 2,000 and less; medium sizes between these and the capital are non-existent.

This system reflects, obviously, a 'Primate City Size' distribution. In line with these facts, cities of importance coming next to Panama City in the ranking are of much smaller size - Colon with 67,000 inhabitants and David with 35,000.

Trends of growth and change over the past decade, have largely contributed to the consolidation of the above patterns and also the growing dominance of the Province of Panama. The urban population has grown by 60% between 1960 and 1970, as compared with a 40% growth of the total population; the urban areas have shared two thirds of the increment and the Province of Panama - one fifth.

Studies indicate on a steady in-migration to the Metropolitan Area; only 66% of the 220,000 inhabitants total increment within this area has resulted from natural increase, the rest amounting to 84,000 people have migrated into the area.

* Excluding the Canal Zone
** The Provinces of Panama & Colon

TABLE 1. PANAMA: POPULATION DISTRIBUTION AND GROWTH
(IN THOUSANDS OF INHABITANTS AND PERCENTAGES)

Year	Total Population	Urban Population		Share of Urban Population		Growth of total Population		Growth of Urban Population			
								Total		Province of Panama	
		Total	Province of Panama	Total	Province of Panama	In persons	In %	In persons	In %	In persons	In %
1960	1,061.6	437.5	282.8	41	26						
1971	1,478.3	707.1	456.0	48	32	417.0	40	269.6	61	173.2	61

1.2 Population forecast for the year 1980

The statistics and census Bureau predicts for the 197[illegible] decade a population growth of [illegible], almost similar to the growth of past decade, adding up to 1,940 million inhabitants in 1980 for the country as a whole.

This would represent a 506,000 new inhabitants for the Republic of Panama.

TABLE 2. PANAMA: POPULATION FORECAST 1980

1960 (in thousands)	1970	growth in 1960-1970 (in %)	1980 (in thousands)	growth in 1970-1980 (in %)
1,061.6	1,434.3	35.1	1,940.4	35.3

1.3 Trends in the Age Structure 1960-1980

By 1980 the 0-14 age group is expected to proceed with present moderate increase to attain 44.6% of the country's population; the 15-29 is supposed to effect a more dynamic growth to share 26.1% of the total; the 30-64 age group is supposed to experience a slight decrease; and the 65+ - a very slight increase.

TABLE 3. PANAMA: POPULATION AGE STRUCTURE 1960, 1970, 1980

Age Groups	1960 %	1970 %	1980 %
Total	100.0	100.0	100.0
0-14	43.3	44.5	44.6
15-29	25.4	25.7	26.1
30-49	20.4	18.5	18.2
50-64	7.3	7.7	7.3
65 and over	3.6	3.6	3.8

The number of males is assumed to surpass by 30,000 - the number of females. The latter group will comprise 954,000 females accounting for [illegible] of the total population and the former - 984,000 males representing a share of 50.8%. This disparity is assumed to be persistent throughout the whole pyramid.

However, it will be of significance only among 0-14 age group where it will amount to a surplus of 18,000 males.

1.4 Trends in the Participation Rates of Manpower. 1960-1980.

The participation rates of Manpower (age group of 15 and over) in the economic life of the country are on average today (1970) - 61.3%. This represents a considerable amelioration to the situation in 1960, when the parallel rate was 57.8% only.

However, these rates differ largely by age-groups: they are, generally lower than the average in the 15-19 and 60+ age groups, and above the average in the others. They tend also to be very different between the sexes - women having fairly low rates of participation. Nevertheless a marked improvement has been recorded in this respect for the decade with an average increase of about 10% in women participation rates. This would indicate a modernization trend in socio-economic patterns.

Further trends of modernization can be traced in the reduced participation rates of males age groups 15-29 and 50-60. The former might be assigned to augmented years of education and the latter to early retirement.

In line with these trends, projections for 1980 visualize a further decrease in males 15-19 and 50-60 age groups participation rates. As to the females further increases in participation rates are expected only in 15-19 age group but the other age groups will apparently experience slight decreases.

To sum-up average participation rates of manpower as a whole are assumed to slightly decrease - from 61.3% to 61.1%. This would result from a significant decrease in males rate - from 87.7% to 85.1% and certain increase in females rates - from 35.4% to 36.4%.

TABLE 4. PANAMA'S PARTICIPATION RATES OF MANPOWER (AGE GROUPS 15+) - 1960. 1970. 1980

	1960			1970			1980		
	Average	Males	Females	Average	Males	Females	Average	Males	Females
Total	57.8	89.7	24.6	61.3	87.7	35.4	61.1	85.1	36.4
15–19	45.0	66.0	24.0	48.3	63.5	32.9	48.4	59.1	37.3
20–29	64.3	98.7	29.9	68.9	95.6	44.3	72.0	96.1	47.3
30–39	64.1	98.3	28.1	69.3	99.2	41.1	68.0	98.6	37.2
40–49	64.4	97.9	27.9	67.6	98.4	35.8	65.8	96.4	34.6
50–59	59.2	96.4	19.2	65.0	95.0	30.2	59.7	90.0	27.8
60+	40.4	69.0	10.7	37.7	65.6	11.5	33.6	54.7	11.2

2. Employment and Unemployment

2.1 Employment Demand and Supply for the country as a whole

2.1.1 Labour force and Jobs in 1970

The current manpower (15+ age group accounts for..760,000 persons
" " labour force (economically active population accounts for ... ...466,000 "
Jobs " " ... ...433,000 "
Resulting unemployment is ... .33,000 "

The share of man power in the total population is 53.0%
" " " labour force 32.5%
" " " employed 30.9%
" " " unemployed 2.3%

If manpower is taken as a 100%

The share of the labour force will be 61.3%
" " " " employed 56.9%
" " " " unemployed 7.1%

2.1.2 Trends in Labour force and Jobs in 1960-70

During the past decade the labour force has grown by ... ... 136,000 persons

The new jobs have amounted to ... ... 133,000 only
New unemployment resulted in 3,000 persons
Added to the 30,000 residual unemployment, total unemployment in 1970 has gone up to ... 33,000 "

Although having grown in absolute quantity, unemployment has proportionately decreased from a share of ... 9.1% in the labour force in 1960 to ... 7.1% in 1970

This has been due to faster growth rates in jobs than in labour force as the following comparative table reveals:

TABLE 5: PANAMA: COMPARATIVE YEARLY GROWTH RATES IN LABOUR FORCE AND JOBS 1960-70

Periods	Yearly growth rates (in %)	
	Jobs	Labour force
1960-1965	3.1	2.8
1965-1970	4.3	4.2
1960-1970	3.7	3.5

2.1.3 Labour force and jobs forecasts for the year 1980

Whilst the total population is assumed to grow by 36%, during 1970-1980, the age groups of 15 years and over, forming the [illegible] power, are said to grow by 41% to attain ... 1,076,
and the labour force will amount to ... 657,000
This would engender new job-seekers (on the labour market at): ... 190,000
and a total demand for new jobs: ... 223,000
(when adding the residual unemployment from 1970) ... 33,000

With regard to the prospective supply of jobs two alternatives have been put forward:

Alternative A, assumes vigorous growth of 50% for the decade ...
which would mean the creation of new jobs ... 218,000
and the reduction of unemployment to ... 6,000

Alternative B, assumes a ... 39% growth
whereby only new jobs ... 167,000
resulting in a rise of unemployment to ... 58,000
which would mean new unemployment of: ... 29,000
added to the labour market.

TABLE 3. [illegible]

Description	Sex and age group	[illegible]	[illegible]	[illegible]	[illegible]
Population (in thousands)		[illegible]	[illegible]	[illegible]	[illegible]
Persons [illegible]		[illegible]	[illegible]	[illegible]	[illegible]
Labour force (in thousands)		[illegible]	[illegible]	[illegible]	[illegible]
Jobs (in thousands)		[illegible]	[illegible]	[illegible]	[illegible]
Unemployment (in thousands)		[illegible]	[illegible]	[illegible]	[illegible]
Share of manpower in total population (in %)		[illegible]	[illegible]	[illegible]	[illegible]
Share of labour force (in %)	in total population	[illegible]	[illegible]	[illegible]	[illegible]
	in manpower	[illegible]	[illegible]	[illegible]	[illegible]
Share of employed population (in %)	in total population	48.2	[illegible]	[illegible]	51.5 or [illegible]
	in manpower	52.5	56.9	[illegible]	[illegible] or [illegible]
Share of unemployed (in %)	in total population	2.8	2.9	-0.5	[illegible] or [illegible]
	in labour force	9.1	7.1	-2.0	8.6 or 6.0

TABLE 7. PANAMA: JOBS AND UNEMPLOYMENT IN 1980

Period / Description	1970	1980	
		Alternative	
		A	B
Labour force	466.2	657.0	657.0
Employment	432.9	650.7	599.7
Unemployment	33.3	6.3	57.3

2.1.4 Sectorial Distribution of Labour force and Jobs in 1970

Panama is basically an agricultural country where over a third of both labour force and jobs are supplied in the agricultural sector.

In parallel, an equally strong orientation to tertiary activities is discernible with commerce and services commanding another third of labour force and jobs.

The low shares of industrial manufacture - 11% - clearly indicates that this sector has not reached as yet advanced stages of development.

TABLE 8. PANAMA: LABOUR FORCE AND JOBS IN 1970

Sectors	Labour force		Jobs		Unemployment	
	(in 1,000)	(in %)	(in 1,000)	(in %)	(in 1,000)	(in %)
Grand Total	466.2	100.0	432.9	100.0	33.3	100.0
Agriculture	169.3	36.4	158.2	36.8	11.1	33.3
Total non-agricultural group	296.9	63.6	274.7	63.2	22.2	66.7
Mines and quarries	0.5	-	0.5	-	-	-
Industr. Manufactu.	51.2	11.1	47.8	11.1	3.4	10.2
Construction	26.4	5.6	23.5	5.3	2.9	8.7
Electricity gas water Engineering services	4.3	0.9	4.2	0.9	0.1	0.3
Transport	17.6	3.8	16.3	3.7	1.3	3.9
Commerce	59.4	12.8	55.8	12.9	3.6	10.8
Services	113.8	24.3	104.2	24.2	9.6	28.9
Canal Zone	23.7	5.1	22.4	5.1	1.3	3.9

The bulks of redundant labour force appear to dwell in the agricultural and services sectors with about 10,000 unemployed in each accounting for 6% to 8% of their labour force.

Similar rates of unemployment are exhibited by the commercial and industrial sectors, although quantitatively they range between 3000 to 4000 unemployed only.

TABLE 9. PANAMA: LABOUR FORCE AND JOBS BY SECTORS 1960, 1970 (IN THOUSAND PERSONS)

Sectors	1960			1970			Growth of Unemployment 1960-1970 (in %)
	L.F.	Jobs	Unemp.	L.F.	Jobs	Unemp.	
TOTAL	330	300	30	466.2	432.9	33.3	+11
Agriculture	156	150	6	169.3	158.2	11.1	+85
Mines & Quarries	-	-	-	0.5	0.5	-	-
Industrial Manufacture	26	24	2	51.2	47.8	3.4	+70
Construction	14	10	4	26.4	23.5	2.9	-27
Electricity, gas water, Sanitary service	2	1	1	4.3	4.2	0.1	-90
Commerce	31	28	3	59.4	55.8	3.6	+20
Transport	10	9	1	17.6	16.3	1.3	+30
Services	72	60	12	113.8	104.2	9.6	-20
Canal Zone	19	18	1	23.7	22.4	1.3	+30

2.1.5 Sectorial Trends in Labour force and Jobs in 1960-1970

During the past decade most of the sectors appear to have failed to cater for their own raising demands. The agricultural and industrial sectors provide outstanding examples, having increased their unemployment by 85% and 70% respectively in relation to 1960.

The rest of the sectors except construction, electricity and services, have all increased their unemployment by 20% to 30% in relation to 1960.

This adds up to a total average growth of 11% in unemployment.

2.1.6 Sectorial growth rates of Jobs in 1960-70-80

The yearly growth rates of jobs supplied in the sectorial spectrum of the economy are fairly low - 0.5% - for the agricultural sector and relatively much higher - 6.2% for the non-agricultural sector groups. Within the latter sectors, related to physical development and fixed assets exhibit the highest growth rates - 15.4% for electricity and engineering services and 8.9% for construction.

Industrial manufacture and commerce, which follow in the ranking, still exhibit growth rates - 7.1% - which are higher than the average.

Only the transport and services sectors and the Canal Zone exhibit fairly low growth rates and below the average of the group.

Facts which highlight recent changes are: higher growth rates in the second quinquennium of the decade for all the non-agricultural sectors, on the one hand, and considerable decreases in the growth rates of the agricultural sector, on the other.

TABLE 10. PANAMA: YEARLY GROWTH RATES OF JOBS 1960-70-80

Sectors	1960-65	1965-70	1960-70	1970-1980 Alternative A	1970-1980 Alternative B
TOTAL:	3.1	4.3	3.7	3.6	2.8
Agriculture	1.9	-0.8	0.5	0.6	0.6
Non-agricultural sectors	4.3	8.2	6.2	5.2	4.0
Mines and Quarries	-	-	-		
Industrial Manufacture	4.6	9.8	7.1	5.0	3.5
Construction	8.4	9.4	8.9	6.2	5.2
Electricity	24.6	7.0	15.4	6.2	5.0
Transport	4.1	8.2	6.1	5.3	4.3
Commerce	3.9	10.4	7.1	6.0	4.8
Finance				8.3	6.7
Services (Governmental)	3.7	7.7	5.7	3.7	3.2
Services (private)				5.9	4.8
Canal Zone	2.1	2.3	2.2	1.5	1.5

Nevertheless, projections for the year 1980 are cautious. Both alternatives which have been produced in respect of the prospective supply of jobs (see this chapter 1.3) imply lower yearly growth rates for the non-agricultural sectors in terms of both the group as a whole and each sector separately.

For the economy as a whole, yearly growth rates for the period 1970-1980 are assumed to be a fraction lower than in the past decade - 3.6% for 1970-80 as compared with 3.7% for 1960-70. But for the non-agricultural sectors the assumed slow-down is more impressive.

5.2% according to Alternative A and
4.0% " " " B as compared with
6.2% in 1960-70.

With regard to the sectors within this group only:

- industrial manufacture
- governmental services and
- the Canal Zone

are assumed to lag below the average;

- the others are assumed to grow faster than the average;
- the banking sector attaining an outstanding growth rate of 8.3%.

2.1.7 Sectorial Distribution of Jobs in 1980

The sectorial distribution of jobs envisaged for 1980 reveals the changes which are likely to occur in the employment structure of the country and the future relationships between the agricultural and non-agricultural sectors.

This may also provide us with some hints about the attitude and intentions of the Central Government with regard to the promotion of various non-agricultural sectors.

TABLE 11. PANAMA: SECTORIAL DISTRIBUTION OF JOBS 1970-1980

Sectors	Total jobs in 1970		Total jobs in 1980				New jobs created in 1970-1980	
			Alternative A		Alternative B		Alternatives A	B
	(1,000)	(%)	(1,000)	(%)	(1,000)	(%)	1,000	1,000
Grand Total	432.9	100.0	650.7	100.0	599.7	100.0	217.8	156.8
Agriculture	158.2	36.5	193.1	29.5	193.1	35.5	34.0	34.0
Total Non-agricultural group	274.7	63.5	457.6	70.5	406.6	64.5	182.9	131.9
Mines and quarries	0.5	0.1	3.5	0.5	3.4	0.5	3.0	2.9
Industrial manufacture	47.8	11.0	77.8	12.0	67.5	11.0	30.0	19.9
Construction	23.5	5.4	42.9	6.0	39.0	6.0	19.4	15.5
Electricity gas and engineering services	4.2	1.0	7.7	1.0	6.8	1.0	3.5	2.6
Transport	16.3	3.8	27.3	4.0	24.8	4.0	11.0	8.5
Commerce	55.8	12.9	103.0	15.0	91.4	15.0	47.2	35.6
Services	104.2	24.1	170.2	26.0	148.5	24.0	66.0	44.3
Canal Zone	22.4	5.2	25.2	6.0	25.2	4.0	2.8	2.8

Alternative A with a postulation of 183,000 new jobs in the non-agricultural sector implies a most vigorous employment policy to be taken by the Government, with view to assist in the creation of:

30,000 new jobs in industrial manufacture
48,000 " " " commerce and banking
66,000 " " " governmental and private services

apart from:

20,000 new jobs in construction and
11,000 " " " transport.

This policy, beside largely resolving the unemployment problem, would expedite the growth of the major motivating sectors of the economy - industry, commerce, services - to an extent of increasing significantly their present population in the total activity. It would lead subsequently to the physical development of the country; the improvement of the transportation system; the growth of the built up area; and the investment of fixed assets.

Alternative B represents a less ambitious employment scheme, which would demand less efforts and sacrifices on the part of the government.

It purports, however, the creation of:

132,000 new jobs in the non-agricultural sector, of which:

20,000 " " " " industrial manufacture
35,000 " " " " commerce and banking
44,000 " " " " governmental and private services

apart from:

15,000 " " " construction
8,000 " " " transport

This policy which maintains largely to retain the present unemployment structure, including the low share of industry, is likely to cause retardation in the expansion of the economy as a whole along with the ever growing unemployment problem within those sectors where the bulks of labour force redundancy are located today.

2.1.8 Changes in the employment structure - 1960,1970,1980

Finally, it might be of interest to review the changes in the employment structure by comparing the past - (1960) - the present (1970) - and the future (1980).

The most dramatic change in the past decade appears to be in the agricultural sector which in 1960 accounted for 50% ! of jobs. It indicates on a resolute step in moving away from an agricultural economy.

However, the growth of the non-agricultural sectors has yet a subdued tone. The acceleration required remains therefore t task of the present decade (1970-80).

TABLE 12. PANAMA: EMPLOYMENT STRUCTURE 1960, 1970, 1980
(IN PERCENTAGES)

SECTORS	1960	1970	1980	
			Alt.A	Alt.B
Totals	100.0	100.0	100.0	100.0
Agriculture	50.0	36.6	30.0	36.0
Industrial Manufacture	8.0	11.0	12.0	11.0
Construction	3.3	5.4	6.0	6.0
Electricity, gas and engineering services	0.3	1.0	1.0	1.0
Transport	3.0	3.8	4.0	4.0
Commerce (1)	9.4	12.9	15.0	15.0
Services (2)	20.0	20.5	26.0	24.0
Canal Zone	6.0	5.2	6.0	4.0

(1) Commerce and Banking

(2) Governmental and Private

2.2 Employment Demand and Supply in the Metropolitan Area

2.2.1 Labour force and Jobs in 1970

The nodality of the metropolitan area is reflected not only by the concentration of 46% of the country's population but also by its possession of

53% of its labour force and
51% of its jobs.

The higher rates of labour force and jobs per capita (of resident population) which results from the above proportion indicate on metropolitan features both in attracting in-migration of labour force and/or commuters from outer areas and in supplying jobs and services to these outer areas.

However, it appears that its attractive power has been greater than its capability of supplying it with jobs.

The redundant labour force concentrated in the metropolitan area accounts for three quarters of the country's redundancy
with 24,000 unemployed persons
out of 33,000 in the entire country
the Metropolitan Area has attained a rate of 98/1000 unemployed
as compared with the entire Country's " " 71/1000 "
and other areas' ... ... " " 42/1000 "

Thereby it is faced more than other parts with a severe unemployment problems on one hand.
On the other hand the other areas of the country whilst sharing 54% of the population they share only 49% of jobs and 47% of labour force.

These proportions indicate probably on an out-migration of labour force from other areas to the Metropolitan Area.
These areas have today a greater share in jobs than in labour force and nevertheless they have not succeeded to resolve their unemployment which includes about a fourth of the total for the country. It appears that the limited diversity of jobs in these areas fail to adapt types of jobs to types of demand.

TABLE 13. PANAMA: SHARE OF THE METROPOLITAN AREA IN EMPLOYMENT SUPPLY AND DEMAND

Description (in thousands)	Rep. of Panama		Metropolitan area		Other areas		Share in the Republic in %			
							of the Metropolitan Area		of other Areas	
	1960	1970	1960	1970	1960	1970	1960	1970	1960	1970
Population	1,061.6	1,434.4	424.0	658.0	637.6	776.4	40.0	46.0	60.0	54.0
Labour Force	330.0	466.0	153.0	246.0	177.0	220.0	46.0	53.0	54.0	47.0
Jobs	300.0	432.9	131.0	222.0	169.0	211.0	43.0	51.0	57.0	49.0
Unemployment	30.0	33.0	22.0	24.0	8.0	9.0	73.0	72.7	27	26.3

2.2.2 Trends in Labour force and Jobs in 1960-1970

Over the past decade the Metropolitan Area has been the scene for a continuously increasing concentration of population labour force and jobs.

However concentration of jobs has been relatively the greatest. Its share in the country's job- market has increased by 8%, while its share in labour force increased only by 7%, and in population increased only by 6%.

Moreover, yearly growth rates of jobs for the past decade have attained a 5.4% in the Metropolitan area as compared with the 3.7% country's average and 2.2% in the rest of the country. The acceleration in the growth rates of jobs in the Metropolitan Area (4.1% to 6.8%) during the second quinquennium as compared with a parallel decline 2.4% to 2.1% in other areas merits attention.

TABLE 14. YEARLY GROWTH RATES OF JOBS IN 1960-1970

	Jobs						Yearly growth rates (in %)		
	Thousands			Percentages					
	1960	1965	1970	1960	1965	1970	1960-65	1965-70	1960-70
Total	300	350	432.9	100.0	100.0	100.0	3.1	4.3	3.7
Metropolitan Area	131	160	221.9	43.7	45.7	51.3	4.1	6.8	5.4
Rest of the Republic	169	190	211.0	56.3	54.3	48.7	2.4	2.1	2.2

This explains the 9% slower growth of unemployment in the Metropolitan Area as compared with the faster 12% of the other areas.

TABLE 15. PANAMA. UNEMPLOYMENT IN 1960-70

	in thousands of persons		growth in %	rate of unemployment per 1000 labour force	
	1960	1970	1960-70	1960	1970
Total	30.0	33.0	11	91	71
Metropolitan Area	22.0	24.0	9	140	98
Other areas	8.0	9.0	12	24	42

2.2.3 Sectorial Distribution of Jobs in 1960-1970

The sectorial distribution of jobs in the Metropolitan Area is strangely tertiary oriented.

In line with its function as the national business and services centre it has allocated over a third of its jobs to services while a group formed of other jobs with the Canal Zone would attain almost the other two thirds of the total. The share of industrial manufacture - 14% - is fairly low although higher than the country's average, and the share of agriculture - 10% - although lower than the country's average is too high for an urban area particularly a Metropolitan Area.

Over the past decade a significant decrease has occurred in the agricultural share and a slight increase in industrial manufacture, commerce, services and construction.

A fact which merits attention was the drop in the share of the Canal Zone.

TABLE 16. [illegible]

Sectors	[illegible] in the Republic	[illegible]	[illegible]	[illegible]
Agriculture, etc.	5.0	[illegible]	[illegible]	[illegible]
Industries, Manufactures	8.0	[illegible]	[illegible]	[illegible]
Construction	5.5	[illegible]	[illegible]	[illegible]
Electricity, gas, etc.	0.5	[illegible]	[illegible]	[illegible]
Commerce	9.4	[illegible]	[illegible]	[illegible]
Services	20.0	[illegible]	[illegible]	[illegible]
Transport	5.0	[illegible]	[illegible]	[illegible]
The Canal Zone	6.0	[illegible]	[illegible]	[illegible]

2.2.4 - Salaries

Definition of term:

Salaries: Monthly payments to workers or employees in any sector of the economy.

Wages : Salaries + allowances of any kind added thereon.

In the absence of comprehensive data on wages the following graph provides a general picture on salaries according to findings produced by a number of sample surveys carried out by the 'Direccion General de Estadistica & Administration de la Presidencia' in co-operation with the University of Panama.

Findings of these surveys have grouped employed people into four occupational groups:

A - unskilled workers

B - Artisans

C - employees in administrative services

D - Professionals

[illegible] regarded as representing, in the [illegible] of the [illegible] [illegible] mean salary [illegible] the [illegible] in [illegible], the [illegible] [illegible].

[illegible] | The mean salary in the Metropolitan Area is [illegible] and in the rest of the country* [illegible], the salary in the former being higher by [illegible].

[illegible] between salaries in the [illegible] wider in the lower part of the [illegible] Metropolitan Area earning salaries [illegible] their parallels in the rest of the country whereas [illegible] higher by [illegible] only.

[illegible] there we would [illegible] and above.

[illegible] in the Metropolitan Area
[illegible] in the rest of the country.

* [illegible] and the Province of Chiriqui and excluding the [illegible] due to the insignificance [illegible].

[illegible] IN [illegible] AN[illegible] BY [illegible], 19[illegible]

Occupational group		[illegible]	Salaries in B: In the Metropolitan Area	Salaries in B: In the rest of Panama*	Relation Metropolitan area/rest of Panama (in %)
A		Unskilled workers	100	[illegible]	[illegible]
B		Artisans	[illegible]	125	[illegible]
C	C[1]	Employees in administration	[illegible]	[illegible]	[illegible]
	C[2]	"	[illegible]	[illegible]	[illegible]
	C[3]	"	460	[illegible]	[illegible]
D		Professionals	635	[illegible]	110
ABC		Mean	[illegible]	[illegible]	[illegible]
ABCD		Mean	[illegible]	[illegible]	[illegible]

* The [illegible] Provinces and the Province of Chiriqui

b) **Scale of salaries by occupational groups in Private & Public Sector**

The mean salary in the ABCD groups in the Private sector is B/321 whereas in the Public sector it attains B/267 only i.e., the public sectors pays on average 20% more.

Disparities tend to grow wider at the top of the scale - a phenomenon symptomatic of developing countries.

* - 4% in A4 group as compared with 41% in D groups.

Disparities are accounted to be even wider in terms of salaries as a whole and all the range of the scale tend to be greater in the private sector.

TABLE 18. PANAMA SCALE OF SALARIES BY OCCUPATIONAL GROUPS IN PRIVATE AND PUBLIC SECTORS, 1969

Occupational Group		Occupation	Salaries in B/		Relation
			in Private enterprises	in Public organisation	Private Public
A		Unskilled Worker	111	105	+ 6%
B		Artisan	154	147	+ 7%
C	C'	employee in administration	176	151	+15%
	C''	"	318	256	+24%
	C'''	"	477	420	+14%
D		Prof national	691	526	+31%
ABCD		Mean	321	267	+18%

An important point which emerges from the above data and which may be most relevant in the context of this report is the relatively low salaries of the A & B groups both in the Metropolitan area and the rest of the country.

These groups which constitute the major bulk of employment in the industrial sector earn no more than B/100 in the A group and B/150 for the B Group and it is these salaries that should be considered when assessing cost of labour in export-oriented industries rather than the mean salary of the economy - B/300 which is further slanted upwards by the high salaries of the D group.

Similarly, the exceptionally high salaries of the AB groups in the Canal Zone - B/231 and B/539 respectively should not be taken account of as it is not typical, whatsoever, of the Panamenian labour market.

(c) Scale of salaries in the D group by professions

Disparities in the Professionals' salaries are rather sharp and appear to be due to the demand and supply state of the play. Substantial disparities are identified also between beginners and experienced in the same profession.

TABLE 19. PANAMA: SCALE OF SALARIES IN THE D GROUP BY PROFESSIONS, 1969.

D group by professions	Salaries in B/	
	beginners	experienced
Agronom-engineer	315	520
Auditor	350	600
Economist	365	835
Lawyer	425	
Architect	450	
Administrator	470	
Civil Engineer	479	750
Micro-biologist	-	530
Medical doctor	500	1440

(d) Scale of salaries in the Canal Zone

Salaries in the Canal Zone are exceptionally high.

The mean salary in the Canal Zone is B/625
which represents twice that of the Metropolitan Area B/304

However, as already mentioned, the mean salary in the Canal Zone is sharply slanted upwards by the mean salary of the North Americans which attains B/1112

The mean salary of the Panamenians attain .... B/449 only

which means only 1.4 times that of the Metropolitan Area.

Anyway salaries in the Canal Zone should be regarded as a special case bound to the American industrial relations legislation.

TABLE 20. PANAMA: SCALE OF SALARIES BY OCCUPATIONAL GROUPS IN THE CANAL ZONE 1969.

Occupational group		Occupation	Salaries in B	
			In the metropolitan area	In the Canal Zone
A		Unskilled worker	102	231
B		Artisan	150	539
C	C_1	Employee in Administration	180	325
	C_2	"	295	566
	C_3	"	460	609
D		Professional	635	856
ABCD		Mean	304	625

3.1 Evolution of the Gross Domestic Product per Capita 1960-1970

The GDP per Capita is today (1969) of the order of 530 B.

During the past decade it has effected much a smaller growth than the GDP as a whole.

Whilst the GDP/as a whole has shown an increase of 117%
the GDP/per capita has grown only by 48%

TABLE 21. PANAMA: GDP and GDP PER CAPITA IN 1960-1970

	1960 (in Balboas)	1970 (in Balboas)	Growth in 1960-70 (in %)	1980 (forecast)		Growth 1970-80 (in %)	
				Alternative A	Alternative B	Alt.A	Alt.B.
GDP/per Capita	359.0	530.0	48.0	845.0	732.0	59.0	38.0
GDP	349,800,000.0	759,400,000.0	117.0	1,640,700,000.0	1,422,600,000.0	116.0	87.0

The growth of the GDP/per Capita has undergone, over the decade, constant yearly fluctuations as evidenced by the following table. In respect of 1980 the GDP/per capita is bound to grow either by 59% to attain B/845 (high hypothesis) or by 38% to attain B/732 (low hypothesis).

TABLE 22. GDP PER CAPITA 1960-1969

Years	Total in Balboas	Increase (yearly)*	
		in Balboas	in Percentage
1960	359	....	...
1961	389	30	8.4
1962	410	21	5.4
1963	444	34	8.3
1964	463	19	4.3
1965	490	27	5.8
1966	517	27	5.5
1967	558	41	7.9
1968	583	25	4.5
1969	617	34	5.8
1970	530	(-)87	(-)16.0

* In relation to the preceding year.

4. The Gross Domestic Product (GDP)

4.2 Gross Domestic Product - Sectorial Structure in 1960-70

The Gross Domestic Product is, today (1969), of the order of $760 millions a year.

The sector with biggest share - 21% - is agriculture; industrial manufacture commerce and services all having a lower share: 18%, 13% and 18% respectively.

Significant changes in the GDP structure have been caused by:

The decrease in the share of the Agricultural Sector from 27% to 21% and the increase of the share of the Non-Agricultural sectors from 73% to 79%

Within the latter, significant increases - of 2% to 4% - have been effected by:

Industrial manufacture
Transport
Banking

and a significant similar decrease - by Services.

TABLE 23. PANAMA: SECTORIAL STRUCTURE OF THE GROSS DOMESTIC PRODUCT IN PERCENTAGE

SECTORS	1960	1965	1970
TOTAL	100.0	100.0	100.0
Agriculture	27.1	24.8	21.0
Non Agricultural Sectors	72.9	75.2	79.0
Mines and quarries	0.3	0.3	0.3
Industrial Manufacture	14.0	16.7	18.4
Construction	6.5	6.5	7.0
Electricity and engineering services	2.4	2.7	3.4
Transport	5.4	6.1	7.5
Commerce	10.0	10.7	9.9
Banking	2.9	3.2	4.6
Services	22.7	19.3	18.6
Canal Zone	8.7	9.7	9.3

3.3 Gross Domestic Product - Sectorial Growth Trends in 1960-70

Over the past decade the GDP has grown at an average yearly rate of 8.1 %. However growth rates have been higher during the first quinquennium; and have experienced a slow down during the second. Special attention should be drawn to the slow down in the GDP growth in the Non-Agricultural group as a whole and in particular to the sharp decline in the industrial manufacture and commercial sectors. On the other hand, it is important to note the signs of acceleration in construction, transport, banking and services.

TABLE 24. PANAMA: GROSS DOMESTIC PRODUCT GROWTH RATES IN 1960-70

SECTORS	Values (in B/Millions)			Yearly growth rates (in %)		
	1960	1965	1970	1960-65	1965-70	1960-70
TOTAL	349.8	530.0	759.4	8.7	7.5	8.1
Agriculture	94.8	131.3	159.5	6.7	4.0	5.3
Non Agricultural Sectors	255.0	398.7	599.9	9.4	8.5	8.9
Mines and quarries	1.1	1.7	2.3	9.1	6.2	7.7
Industrial Manufacture	48.9	88.5	139.7	12.6	9.6	11.1
Construction	22.8	34.5	53.2	8.6	9.0	8.8
Electricity and engineering services	8.4	14.5	26.0	11.5	12.4	12.0
Transport	18.8	32.2	57.1	11.4	12.1	11.7
Commerce, retail & wholesale	35.2	56.7	75.2	10.0	5.8	7.9
Banking, insurances and fixed assets	10.0	17.1	34.6	11.3	15.2	13.2
Public Administration	11.4	15.7	23.4	6.6	8.3	7.5
Services, private & public	68.0	86.4	118.1	4.9	6.4	5.7
Canal Zone	30.1	51.4	70.3	11.1	6.5	8.7

Nevertheless compared with Central and South American countries in terms of G.D.P. growth rates, Panama appears to dwell fairly high in the ranking.

	Countries	Yearly growth rates of GDP 1958 - 1968 (in %)
1	Brazil	10.6
2	Mexico	10.3
3	Bolivia	8.6
4	Panama	8.5
5	Paraguay	8.2
6	Nicaragua	7.8
7	Peru	7.5
8	Columbia	6.6
9	Costa Rica	6.3
10	Honduras	6.1
11	Chile	6.1
12	Venezuala	6.0
13	Ecuador	5.7
14	Dominican Republic	5.5
15	El. Salvador	5.2
16	Guatemala	4.8
17	Argentina	3.3
18	Uruguay	1.6
19	Netherlands Antilles	0.9

It appears that of all Latin American countries, Brasil, Mexico and Bolivia only have presented higher growth rates than Panama for the period 1958-68. However, Panama has climbed to the top of the ranking in terms of GDP/per Capita for the period 1960-70.

	Countries	Yearly growth rates per capita 1960-70 (in %)
1	Panama	4.2
2	Mexico Nicaragua	3.6
3	Bolivia	3.2
4	Costa Rica Brazil	2.9
5	El Salvador	2.5
6	Venezuela	2.4
7	Guatemala	2.2
8	Argentina	2.1
9	Haiti Columbia Chile	1.8
10	Honduras Paraguay	1.7
11	Paraguay	1.3
12	Ecuador	1.2
13	Peru	0.4
14	Dominican Republic	0.0
	Average Latin America	2.5

According to the Global Economic Research of the United Nations for the year 1970 the GDP growth rate for the year 1970 has been of:-

2.8%	in the industrial countries
2.5% (agricultural sector) and 7.0% (industrial sector)	in the developing countries
7%	in the Planned Economies (Eastern Europe and Russia)

To sum up, the evolution of the GDP in Panama has been highly dynamic by international standards.

3.4 Product per Employee - Sectorial Growth Trends 1960-70

The product/employee is today (1970) in Panama is ₱ 1,754

The agricultural sector has the lowest product/employee: ₱ 1,000

The non-agricultural sector has a twice larger product/employee ₱ 2,200

Within the latter are included:

Commerce and Services with a product/employee ranging between ₱ 1,300 to 2,000

Industrial Manufacture with a product/employee ₱ 3,000

Transport with a product/employee ₱ 3,500

Engineering Service - with the highest ratio ₱ 6,000

During the past decade the ratio product/employee has effected a similar yearly growth to the GDP per Capita but smaller than the GDP as a whole:-

The product per employee having increased by 4.2%
The GDP per Capita having increased by 4.6%
The GDP as a whole having increased by 8.1%

TABLE 25. PANAMA: GDP, GDP PER CAPITA AND PRODUCT PER EMPLOYEE 1960-70

	1960 in ₱	1970 in ₱	Yearly Growth rate in 1960-70 (in %)
Product per employee	1,666.0	1,754.0	4.2
GDP per Capita	359.0	530.0	4.6
GDP	349,800,000.0	759,400,000.0	8.1

On the average, growth patterns of the product per employee exhibit similarities with those typifying the GDP as a whole: a marked slow down during the second quinquennium of the decade for the average, the non-agricultural group and for the Industrial Manufacture and commercial sectors.

This slow down merits concern as it is symptomatic of the major sectors of the economy.

TABLE 26. PANAMA: PRODUCT PER EMPLOYEE 1960-70

Sectors	Product per Employee (in B)			Yearly growth rates (in %)		
	1960	1965	1970	1960-65	1965-70	1960-70
Total	1,166	1,514	1,754	5.3	3.0	4.2
Agriculture	632	796	1,008	4.7	4.8	4.8
Non-agricultural sectors	1,700	2,195	2,134	4.9	0.3	2.5
Industrial manufacture	2,023	2,959	2,923	7.7	-0.2	3.7
Construction	2,280	2,300	2,264	0.2	-0.3	-0.1
Electricity & engineering services	8,400	4,833	6,190	-10.5	5.1	-3.0
Transport	2,089	2,171	3,503	0.8	10.0	5.3
Commerce	1,614	2,927	1,968	12.6	-7.6	2.0
Services	1,523	1,418	1,358	1.4	-0.9	0.3
Canal Zone	1,689	2,570	3,138	8.8	4.1	6.4

3.5 Comparison of Job and GDP Sectorial Structures 1960-70

Levels of productivity as represented by job/GDP ratios vary widely from sector to sector.

The lowest level is identified in the agricultural sector exhibiting the highest ratio of 1.7

The services sector also shows a fairly low level of productivity with a ratio of 1.3

A medium-low level is identified in the commercial sector with ratio of 0.9

A medium level is exhibited by the industrial sector with a ratio of 0.6

and finally the highest level dwells in the engineering services with a ratio of 0.29

During the decade growth rates of product/employee have dropped as a rule in all sectors except Transport.

This fact presents a rather disquieting phenomenon.

TABLE 27. PANAMA: COMPARATIVE SECTORIAL STRUCTURES OF JOBS AND PRODUCTS

Sectors	1960			1970		
	GDP (in %)	Jobs (in%)	Job/GDP ratio	GDP (in%)	Jobs (in%)	Jobs/GDP ratio
Agriculture	27.1	50.0	1.85	21.0	36.5	1.70
Mines and quarries	0.3	-	-	0.3	0.1	0.33
Industrial manufacture	14.0	8.0	0.57	18.4	11.0	0.60
Construction	6.5	3.3	0.50	7.0	5.4	0.77
Electricity and engineering services	2.4	0.3	0.12	3.4	1.0	0.29
Transport, etc.	5.4	3.0	0.55	7.5	3.8	0.50
Commerce	12.9	9.4	0.73	13.5	12.9	0.95
Services	22.7	20.0	0.88	18.6	24.1	1.30
Canal Zone	8.7	6.0	0.69	9.3	5.2	0.55

3.6 Gross Domestic Product - Sectorial Projection for the year 1980

Estimates in respect of the future growth of the GDP postulate for the year 1980 two alternative growth rates:

Alternative A: A yearly growth rate of 8.0%
for the economy as a whole and of 8.7%
for the non-agricultural sectors - somewhat lower than the 1960-70 rates resulting in a product of B/1,640 millions in 1980.

Alternative B: A yearly growth rate of 6.3%
for the economy as a whole and of 7.1%
for the non-agricultural sectors considerably lower than 1960-70 rates resulting in a product of B/1,422 millions in 1980.

In both alternatives the four following sectors are assumed to effect a comparatively enhanced growth:

- Banking with a 12.2% growth rate or alternatively with a 9.9%
- Engineering Services " 11.1% " " " " " " 9.0%
- Transport " " 10.8% " " " " " " 8.8%
- Industry " " 10.3% " " " " " " 8.4%

The Canal Zone will follow the average growth rate of the economy and commerce and services growth rates will fall below this average.

Should the Panamenian economy expand along these lines it will mean the consolidation of the financing sector, the advent of industrialization and significant development of the whole range of infrastructure networks.

TABLE 28. PANAMA: GROSS DOMESTIC PRODUCT - SECTORIAL PROJECTIONS FOR 1980 (IN MILLION B/. 1970)

Sectors	Product in 1970	Growth rate for 1960–70	Alternative A (high)		Alternative B (low)	
			Growth rate for 1970–80	Product in 1980	Growth rate for 1970–80	Product in 1980
Total	709.4	8.1	8.0	1,676.7	6.5	1,382.6
Agriculture	159.5	5.3	4.9	257.3	4.0	236.1
Non-agricultural sectors	509.9	8.9	8.7	1,283.4	7.1	1,056.5
Mines	2.3	7.7	7.1	4.6	5.8	4.0
Industrial manufacture	112.1	11.1	10.3	277.3	8.4	216.1
Construction	53.2	8.8	8.1	115.9	6.6	100.8
Electricity, etc.	26.0	12.0	11.1	74.5	9.0	61.5
Transport	57.1	11.7	10.8	159.3	8.8	132.7
Commerce	75.2	7.9	7.3	152.1	5.9	113.4
Banking, etc.	34.6	13.2	12.2	109.4	9.9	88.9
Public Administration	23.4	7.5	6.9	45.6	5.6	40.1
Public & Private Service	118.1	5.7	5.3	197.9	4.3	140.0
Canal Zone	70.3	8.7	8.0	151.8	6.5	112.0

1.1 General

Panama's level of industrialisation at present is [illegible] low:

The number of industrial workers per [illegible]
The share of industrial jobs in the total [illegible]
The share of the [illegible] in the GDP is the only one that [illegible] capita $/year only.

The branches grouped at today's [illegible] in manufacture are for the following

1. Light industries
   - food
   - [illegible]
   - tobacco
   - [illegible] and footwear
   - fur, furs and accessories
   - leather products
2. Intermediate industries
   - chemical products
   - non-metallic and mineral product
   - rubber products
   - paper products
   - oil products
3. Metallic industries
   - basic metal
   - metallic products except transport equipment
4. Other manufactures
   - printing and associated industries
   - others

The dominant position of the light industries is unquestionably accounting for half the sector's product.

An attempt at promoting medium and metallic industries has not been without success and the dynamic growth of the metallic [illegible] is even worth attention. Nevertheless their proportionate share is still rather small.

The basic goal of industrial development during the past decade has been self-sufficiency and import substitution as a means to reduce Panama's entrenched deficit in its international transactions in goods and services.

Progress in this respect, though noticeable has been quite limited so far.

While imports of items in consumption have constituted 47.9% of the total supply in 1981 they have slightly dropped in 1988 to 47%

TABLE [illegible] IMPORTS IN THE SUPPLY OF GOODS AND SERVICES FOR CONSUMPTION IN [illegible] 1981-1988

[illegible]	Value in million	Imports of manufactured products in million	Total supply of goods & services	Share of GDP in total supply	Share of imports in total supply
1981	[illegible]	141.7	193.7	92.4	47.9
1984	[illegible]	171.4	268.2	95.9	64.1
1988	[illegible]	[illegible]	997.7	93.0	65.0

It follows that

Ghana's [illegible] largely depends, for the time being on foreign supply [illegible] oil, miscellaneous food, clothing, consumer effects, furniture and accessories. The evolution of the sector its problems, future prospects and objectives are treated in the following paragraphs.

4.2 Employment in Industrial Manufacturing

4.2.1 Demand and supply of industrial jobs in the country as a whole.

a Labour force and jobs in 1989.

Here labour force and jobs in the Industrial manufacture sector constitute today (1989) 11% of their parallels in the country as a whole. Consequently, the sector has a similar redundancy.

The labour force available in the sector accounts for 91,200 persons

The jobs for [illegible] 87,800

Unemployment for [illegible] 3,400 persons

The share of unemployment in the industrial sector - 6.8%
is somewhat lower than the share of total unemployment in the economy as a whole - 7.1%

a) Trends in labour force and jobs 1969-79

During the past decade jobs in industrial manufacture have experienced a considerable rapid growth:

the yearly growth rate has been 7.1%

almost as twice as that of the jobs in the economy as a whole 3.7%

This has meant - 45,900 new jobs and a stronger position in the employment structure: the share of the sector having increased from . . . . . 9% to 11%

Nevertheless, - 1,400 new unemployed have emerged due to - 25,200 new workers engendered in the labour market during the said period.

New unemployed have joined the 2000 persons redundant from 1969, adding up to a total of - 3,400 unemployed

However the accelerated growth in industrial jobs during the second quinquennium should be mentioned, with a yearly growth rate attaining . . . . . 9.9% as compared with . . . . . 4.9% the country's average for the same period.

(c) Jobs forecast for 1980

With regard to the year 1980 a more moderate growth is, nevertheless, envisaged.

Annual growth rates oscillate between 3.5% and 5%. This premise serves a basis to two alternatives:

Alternative A with - 30,000 new jobs and a further increase of the sector's share in the economy from 11% to 12%; and

Alternative B with - 20,000 new jobs and no change in the share of the sector (namely: 11% as above)

Alternative A which represents a vigorous stride towards industrialisation would necessitate, governmental support of a magnitude which is likely to place a heavy strain on national financing facilities.

Alternative B seems to be, therefore, more realistic.

4.2.2 Industrial jobs in the Metropolitan area in 1960-70

(a) Concentration rates

The Metropolitan Area concentrates of the total Industrial Manufacture jobs. - 64%

This is a fairly high concentration in relation to its share in population - 46%
and in the total jobs - 51%

Moreover, male jobs attain even a higher share - 60%
compared with the female shares - 57%

This derives from a higher male proportion in the Metropolitan Area's industrial enterprises:

The male/female proportion therein being - 74:26
as compared with - 70:30
in the country as a whole.

TABLE 30. PANAMA: JOBS IN THE METROPOLITAN AREA IN 1970 BY SEX (IN THOUSANDS)

	Total for the country	Metropolitan area	Rest of the country	% of the metropolitan area
Total	48.0	31.0	17.0	64
Male	33.0	22.5	10.5	68
Female	15.0	8.5	6.5	57

During the past decade the share of industrial jobs in the employment structure of the Metropolitan Area has grown by 2% - from 12% to 14% while in the country as a whole it has grown by 3% - from 8% to 1[illegible] This indicates that proportionally the concentration of Industrial jobs in the Metropolitan Area has slightly decreased.

(b) Salaries No information is available on the mean salary in the industrial sector. Yet, the survey mentioned in paragraph 2.2.4 discloses that the unskilled workers salaries in the Metropolitan Area... B/105

in the rest of the country B/74
Artisans salaries in the Metropolitan Area.. B/150

in the rest of the country..... B/125

24% of the employed in the sector are low salary workers earning less than 25 Balboas a week. However, the Metropolitan area with its share of 64% of the total sector's jobs possesses only 47% of the low salary workers.

Moreover, low salary male workers appear even in smaller concentration - with 40% share only - of the male group in the country. A different situation applies to women: the low salary workers group appears in a concentration - of 76% - in the Metropolitan Area.

In view of the proportion of males and females' jobs it may be concluded that the sector's income levels are nevertheless higher in the Metropolitan Area than the country's average and considerably higher than in the rest of the country.

TABLE 31. PANAMA: GEOGRAPHICAL DISTRIBUTION OF THE LOW INCOME GROUPS

Geographical Distribution by sex	Mean Weekly Salary	Employed				
		in thousands	whole country (by sex)	Metropolitan & rest		
				Total	Male	Female
			100	100	100	100
Total for the Country	-	11.4				
Males	-	9.2	82			
Females	-	2.2	18			
Metropolitan Area	-	5.4		47.3		
Males	31.7	3.7			40.0	
Females	25.9	1.7				76.3
Rest of the Country		6.0		52.3		
Males	19.28	5.5			60.0	
Females	18.01	0.5				23.7

4.3 Gross Industrial Product - GIP

4.3.1 Evolution of the Gross Industrial Product in 1960-70

The Gross Industrial Product is today (1970) of the order of B/140 millions and constitutes about 18% of the Gross Domestic Product.

Over the past decade GIP has grown faster than GDP with yearly growth rates of 11.1% and compared with 8.1%. This has resulted in an increase of the GIP's share in the GDP from 14% to 18%.

The accelerated expansion during the first quinquennium due to the establishment of the oil industries and the slow down during the second, in line with the trends of the GDP, should however be noted.

TABLE 32. PANAMA'S GROWTH RATES AND SHARE IN THE GDP

	GIP & GDP (in B/millions)			growth rates (in %)			growth in 1960-70 in %
	1960	1965	1970	1960-65	1965-70	1960-70	
GDP	349.8	530.0	759.4	8.7	7.5	8.1	117.0
GIP	48.9	88.5	139.7	12.6	9.6	11.1	185.0
Share of GIP in GDP	17.0	16.6	18.4				

A comparison with selected Latin American countries, for which data is available, reveals that Panama is well ahead of all of them with its GIP's yearly growth rates, as follows:

TABLE 33. SELECTED LATIN AMERICAN COUNTRIES - YEARLY GROWTH RATES OF THE GIP IN YEARS 1960-1968

Countries	1960-66	1967	1968
Panama	11.9	12.2	9.7
Gutemala	7.3	8.1	5.4
Nicaragua	8.8	7.0	6.0
Honduras	8.2	11.5	10.7
Peru	9.1	5.7	6.0
El Salvador	9.7	8.4	6.8
Costa Rica	9.9	11.0	11.3
Chile	7.5	2.5	3.0

4.3.2 Evolution of the Gross Industrial Product per Capita in 1960-70

The GIP per capita today (1970) is of the order of B/96.0. This represents a growth of 108% in regard to 1960, which is, nevertheless, considerably higher than the 72% growth of the GDP per capita for the same period.

The GIP accelerated growth in comparison to the GDP is reflected in table 34 hereunder.

TABLE 34. PANAMA: COMPARATIVE EVOLUTION OF THE GIP AND GDP PER CAPITA IN 1960-70

	GDP per capita in B	GIP per capita in B
1960	359.0	46.0
1970	530.0	96.0
% of Growth for 1960-70	48.0	108.0

4.3.3 Evolution of the Gross Industrial Product by industrial groups

The growth of the GIP over the past decade has meant basically the expansion of the light industries which have retained a dominant position throughout the period inspite of their continuously decreasing share (from 70% in 1960 to 50% in 1970). This was due to the rise of the medium and metallic industries shares.

The singular dynamism of the latter merits mentioning. Nevertheless it does not account so far for more than 12% of the whole sector.

TABLE 35. PANAMA: GIP STRUCTURE BY INDUSTRIAL GROUPINGS IN 1960-70 (in percentage)

Group of industries	1960	1965	1970
TOTAL	100.0	100.0	100.0
Light industries	70.1	60.0	50.0
Medium industries	14.9	20.0	26.0
Metallic industries	3.8	9.0	12.0
Others	11.2	10.5	12.0

4.3.4 Gross Industrial Product - Forecast for 1980

The basic assumption in the estimates of the GIP for 1980 is more moderate growth rates than those effected in the past decade.

However, they are supposed to be in line with present trends, higher than the GDP's growth rates.

Two alternatives are postulated:

An expansion at a yearly growth rate of 10.3% (similar to that in 1960-70) attaining a total value of B/372 millions in 1980 and forming almost a quarter of the GDP: or

A slower growth at a rate of 8.4% attaining a total value of B/313 million and forming almost a fifth of the GDP.

TABLE 36. PANAMA: GROSS INDUSTRIAL PRODUCT IN 1980 (IN MILLIONS OF BALBOAS AND PERCENTAGES)

	Product in 1970	Yearly growth rates in 1960-70	Alternative A		Alternative B	
			Yearly growth rates in 1970-80	Product in 1960	Yearly growth rates in 1970-80	Product in 1980
GDP	759.4	8.1	8.0	1,640.7	6.5	1,422.6
GIP	139.7	11.1	10.3	372.3	8.4	312.9
GIP/ GDP (in%)	18.4	-	-	23.1	-	21.9

4.4 Levels of Productivity

4.4.1 General

Evolution of productivity levels in the industrial manufacture sector has been assessed through the following indicators:

(a) Ratio of job/Gross Industrial Product;

(b) Value of Gross Industrial Product per worker

4.4.2 Job/Gross Industrial Product ratios in 1960-70-80

During the 1960-70 decade trends in jobs and GIP have exhibited reverse tendencies: an increase in jobs growth rates as opposed to a decrease in GIP's growth rates. During the first quinquennium jobs have grown rather moderately at a 4.6% rate while GIP was galloping at a 12.6% rate. During the second, growth of jobs was vigorouly accelerated attaining a rate of 9.8% while product growth has slowed down to 9.6%.

This phenomenon has been related to the establishment of oil refineries and other modern enterprises featured by high growth rates in the early half of the decade, while in the second half no projects of the like were launched but existing new factories followed the natural course of development and expansion and subsequently increased the number of their workers.

TABLE 37. JOBS AND GDP GROWTH RATES

	Yearly growth rates (in %)	
	Jobs	GDP
1960-70	7.1	11.1
1960-65	↓ 4.6	↑ 12.6
1965-70	↓ 9.8	↑ 9.6

Job/GDP ratios indicate that levels of productivity have slightly decreased during this decade (from 0.57 to 0.60). However, projections for future growth expect higher rates of productivity (which are reflected by lower ratios of jobs/GDP).

0.52 in Alternative A and,
0.50 in " B.

These are in line with extensive programmes for vocational training that are being set up both by the Government, and by IPARMO.

TABLE 38. RATIOS OF INDUSTRIAL JOBS/GDP FOR 1960-70-80

1960			1970			1980					
						Alternative A			Alternative B		
Share of GDP in GDP (in %)	Share of Industrial jobs in total jobs (in %)	Job/GDP ratio	Share of GDP in GDP (in %)	Share of Industrial jobs in total jobs (in %)	Jobs/ GDP ratio	Share of GDP in GDP (in %)	Share of industrial jobs in total jobs (in %)	Job/ GDP ratio	Share of GDP in GDP (in %)	Share of industrial jobs in total jobs (in %)	Job/ GDP ratio
14.0	8.0	0.57	18.4	11.0	0.60	23.1	12.0	0.52	21.4	11.0	0.5

4.4.3 The value of the Gross Industrial Product per worker in 1960-70

The value of GIP per worker is today (1970) of the order of 2,923 Balboas which is 67% higher than the GDP per employee in the economy as a whole.

During the decade the GIP per worker has increased by about B/900. But in terms of growth rates it has sharply decreased from a 7% yearly growth in the first half of the decade to a -0.2% rate in the second, while the GDP per employee has demonstrated a somewhat slower but steady and consistent line of growth.

TABLE 39. PANAMA: GDP/PER EMPLOYEE AND GIP/PER WORKER COMPARATIVE EVOLUTION IN 1960-70.

	1960	1965	1970	Yearly growth rates in %		
	in Balboas			1960-65	1965-70	1960-70
GDP per employee	1,166	1,514	1,754	5.3	3.0	4.2
GIP per worker	2,038	2,950	2,923	7.7	-0.2	3.7

In this context it would be of interest to discuss separately enterprises of 5 workers and over as their levels of productivity seem to be double the average and attain B/6000 per worker, and almost 9 times larger than that of small enterpriaes producing B/700 per worker.

TABLE 40. PANAMA: GIP PER WORKER IN ENTERPRISES OF 5 WORKERS AND OVER

GIP/per worker	1963	1965	1970
In the total industrial sector	3,100	3,300	3,200
In enterprises of 5 workers and over	4,500	5,000	6,100
In enterprises below 5 workers	1,700	1,500	700

These enterprises which share 88% of the aggregated value in the GIP (see table 41 below), they can nevertheless exert nothing but a marginal impact on the level of productivity of the sector as a whole by comprising only 47% of the total jobs.

This confirms that the sector has not succeeded to absorb workers engaged in workshop type of activity where use of machinery is relatively low in bigger enterprises, yielding higher outputs.

TABLE 41. PANAMA: JOBS AND AGGREGATED VALUE IN ENTERPRISES OF 5 WORKERS AND OVER

Year	Jobs in the industrial sector as a whole (in thousands)	Jobs in enterprises of 5 workers and over (in thousands)	Share of jobs of enterprises of 5 workers and over in the industrial sector as a whole in %	Share of enterprises of 5 workers and over aggregate value in the GIP (in %)
1963	28.0	13.2	47.0	70.0
1965	30.0	15.1	50.3	77.6
1970	47.8	22.2	46.0	88.1

Forecasts in respect of jobs on the one hand and GDP and GIP on the other for 1980 (see table 42 below) imply higher rates of productivity both in the economy as a whole and in the industrial sector in particular.

Roughly, growth rates of both GIP and GDP are anticipated to be twice and more than those of jobs as follows:

(a) Growth rates of GDP as compared with that of total job	6.5% or 8.0%	
	2.8% or 3.6%	
(b) Growth rate of GIP as compared with that of industrial jobs	8.4% or 10.3%	
	3.5 or 5.0%	
Consequently, the GDP/per employee is likely to range between	B/2,370 & B/2,513	
The GIP/per worker - between	B/4,400 & B/4,780	

TABLE 42. PANAMA: EVOLUTION OF THE GDP/ PER EMPLOYEE AND THE GIP/PER WORKER IN 1960-70-80

	1970 (in Balboas)	1980 (in Balboas)		Yearly growth rates in 1970-80		% of growth in 1970-80	
		Alternative A	Alternative B	Alt. A	Alt.B	Alt.A	Alt.B
GDP	759,400,000	1,640,700,000	1,422,600,000	8.0	6.3	116.0	87.0
Total Jobs	432,900	650,700	599,700	3.6	2.8	50.3	38.5
GIP	139,700,000	372,300,000	312,000,000	10.3	8.4	166.5	124.0
Jobs in industrial manufacture	47,800	77,800	67,500	5.0	3.5	62.8	41.2
GDP/per employee	1,754	2,513	2,370			43.0	35.0
GIP/per worker	2,923	4,780	4,400			63.0	51.0
GIP/per capita	96	195	164			101.0	69.0

4.4.4 Training of manpower

A growing concern in recent years in respect of low productivity levels and deficiency in skilled manpower has led to a series of studies, sample surveys, and consequently, to vocational training programmes initiated by bot the Ministry of Education and IFARHU - an institute for training of manpower founded in 1965.

IFARHU has set up, so far, about 85 different courses and has produced about 600 skilled workers a year trained mainly in skills required by the construction industries, repair services and general services branches.

This has left many gaps with regard to the wide range of skills required in the spectrum of the expanding industrial manufacture activities.

Virtually, IFARHU has set out an extensive programme aimed to restructure, diversify and enlarge the capacity of its activities in coming years.

Other vocational schools coming under the Ministry of Education or under private institutes produce about 900 workers a year.

4.5 Investment in fixed assets in enterprises of 5 workers and over in 1961-68

4.5.1 Volume of investment in fixed assets

The total volume of increment in fixed assets in industrial manufacture for the period 1961-68 has been of the order of B/100 million.

Annual volumes of investment have considerably fluctuated over these years.

Being of moderate size, ranging between 6 and 10 millions B. a year during 1961-65, it has considerably increased in the year 1966-67 to attain 25 million B. following the establishment of the National textile industries, and to drop once more to 13 million B. in 1968.

60% of the total investment for the 1961-68 period has been allocated to production equipment and machinery.

TABLE 63. PANAMA: GROSS INVESTMENT OF FIXED ASSETS IN ENTERPRISES OF 5 WORKERS AND OVER IN 1961-65

TOTALS		6,795	8,655	9,595	9,597	10,1[illegible]	15,478	25,[illegible]27	13,[illegible]09	99,722
Production Equipment and Machinery	B/. in millions	5,115	5,7[illegible]	6,188	[illegible]	5,7[illegible]	8,799	[illegible]	7,90[illegible]	[illegible]0,150
	Share of Production Equipment in total (in %)	75	67	65	50	47	55	62	58	60

[illegible] Capital/Output ratios

The marginal relationship between capital and output has been worked out as the ratio between the gross increments in fixed assets and the increment in aggregated value. The former is considered to represent quite adequately the 'capital', and the latter - the best indicator of the sector's contribution to the global production of goods and services.

The gross increment in fixed assets for 1981-84 is estimated to be . . . . . [illegible]

The increment in the aggregated value output for same period is estimated to be . . . . . [illegible]

The average Capital/Output ratio is consequently 1.[illegible]

Industries having high capital/output ratios above the average ratio of 1.[illegible] are:

(a) Food and drinks 1.44

(b) Footwear and apparels 1.45

(c) Paper products . . . . . [illegible]

(d) Leather goods besides shoes 4.49

(e) Cement, glass and minerals . . . . . 2.[illegible]

Industries having particularly low capital/output ratios, less than 1.00 are:

(a) Tobacco . . . . . [illegible]

(b) Metallic industries except machinery . . 1.38

(c) Assembling and repair of machinery . . . 0.97

[illegible] considerably when privileges [illegible].

As an instance, compare the ratios are cited below for those of above [illegible] industries on which data are available:

The average [illegible] output ratio 0.77

[illegible]	0.90	(1.58)[1]
[illegible] . . .	0.92	(1.49)
[illegible]	1.45	(2.36)
[illegible]		-
[illegible]	3.33	
[illegible]	0.52	(0.59)
Metal [illegible] except machinery	0.57	(0.58)
N.A.		-

This comparison leads to a conclusion that capital/output ratios [illegible] on investment unless the wide range of [illegible] incentives, etc., are thoroughly evaluated.

(1) [illegible] ratios in the absence of privileges and/or exemptions as in page [illegible].

2 Financing

2.1 Short-term financing

Short-term financing [illegible] on local banks assisted by foreign sources through the National Bank and the Bank of Industrial Development.

Short-term loans have amounted in 1969 to S/45 millions forming a share of [illegible] in the S/515 millions total loans provided that year to the domestic economy, half of which was allocated to the commercial sectors.

The share of the industrial sector in short-term banking credits appears to be fairly low in comparison to the share in the Gross Domestic Product.

For instance in 1968 the share of the GIP in the GDP has been .. .. 17.[illegible]

while the share of the industrial sector in short term loans has been only .. [illegible]

This phenomenon which does not necessarily indicate an insufficient credit offer, merits investigation.

4.1.4 Medium and long-term financing

- Loan allocation by branches

In 1964 a financial institute for long term loans - DISA (Compañía Industrial S.A.) - has been established.

This institute has been founded with the participation of private investors and the financing support of the International Agency for Development - AID - to respond to the urgent necessity of a source for medium and long-term loans in the industrial manufacturing sector.

The first contract with the IAD attained B/. 4 millions for 20 years at 2% interest, the second attained the sum of B/.4) million for 20 years at 3% interest.

DISA has utilized loans allocation not only for sustaining the growth of the various branches but also for the promotion and stimulation of some emerging branches according to an agreed policy with the government.

TABLE 44. PANAMA: RELATIONSHIP BETWEEN DISA LOANS AND INCREMENT IN FIXED ASSETS BY INDUSTRIALS BRANCH GROUPS IN 1964-1968

	DISA loans in 1964-65		Gross increment in fixed assets in 1965-68		Share of loans in gross increment fixed assets in (%)
	In B/.thousands	In	In B/.thousands	In	
TOTAL	[illegible]	100.0	[illegible]	100.0	13.0
Light industries	4,495.6	52.0	42,324.0	69.0	9.5
Inter-mediate indus-tries	3,178.9	35.0	12,643.0	19.0	25.0
Metallic indus-tries	719.1	8.0	3 180	5.0	22.6
Others	509.8	5.0	7,041.0	11.0	8.7

More than half the amount was loaned to light industries which however effected a greater share - a ⅔ share in the gross increment in fixed assets.

On the other hand a third of the total was allocated to the intermediate industries which effected only a fifth of the increment.

Within this group, major emphasis which was assigned to the paper and chemical industries is revealed by the 58% and 47% respective shares of loans in their total increment of fixed assets.

The group of metallic industries have also been favoured by DISA which provided about 22% of their increment in fixed assets.

(b) Loan allocation by object in 1964-68

90.0% = B/ 9.88 millions loans to industrial enterprises have been allocated to the increment of fixed assets. These have been distributed according to the following proportion:

72.2% = B/7.1 millions on machinery and equipment
17.7% = B/1.7 millions on construction

89.0% of loans have been long term - 5-10 years and only
11.0% " " " " medium term - 3-4 years

TABLE 44A. DISA LOANS FOR INDUSTRIAL MANUFACTURING UNTIL MARCH 1970

Destination of Loan		Share in total for manufacturing (%)	Amount (in B/)	Share in the total (in %)
Total for the economy			11,514,909	100.0
		%		
Destination of Loans to the Industrial Manufacturing	Total	100.0	9,880,547	85.8
Machinery & equipment		72.2	7,135,261	62.0
Raw Materials		6.2	609,659	5.3
Industrial structures		17.7	1,744,419	15.1
Expenses on installations and tests		2.5	246,208	2.1
Return of debt (capital)		1.4	145,000	1.3
Terms of Loans	Number of Loans	%	Amounts	100.0
Medium term (3-4 years)	52		1,292,144	11.2
Long term (5-10 years)	93		10,282,765	88.8
Categorisation of Loans by Size	Number of Loans	%	Amounts	100.0
$ 3,000- 20,000	54		600,583	37.0
$ 20,001-200,000	73		4,915,056	50.0
$ 200,001 and over	18		6,059,000	13.0

5.1 Balance of Payments in 1971

5.1.1 Goods and Services

The commercial transactions of Panama in goods and services with the rest of the world resulted in 1971 in a negative balance of B/84.6 millions which represents an increase of B/3.1 millions with regard to the previous year.

This negative balance has been produced by the interaction of the following factors:

Factors creating a Negative Balance:	Net balance
1. Exchange of goods with the rest of the world	B/ 238.9 millions
2. Freight rates and insurance on international delivery	B/ 34.6 "
3. Income deriving from investments *	B/ 29.0 "
4. Others	B/ 3.9 "
Total	B/ 306.4 "

Factors amending the situation in creating a Positive Balance	
1. Services provided to the Canal Zone	B/ 77.8 millions
2. Expenditure on tourism by Canal Zone residents	B/ 38.9 "
3. Various transports from foreign countries	B/ 33.0 "
4. Services provided to foreign countries	B/ 27.8 "
5. Tourist services ..	B/ 20.0 "
6. Others	B/ 24.0
Total	B/ 221.8 "

Net Balance (Negative) = B/84.6 millions.

* Including net balance of interests paid on public and private debts

3.1.2 Transfer

Payments on transfer involved in unilateral transactions added up to a positive balance of ... ... B/5... which represents an increase of ... ... B/2.... with regard to the previous year.

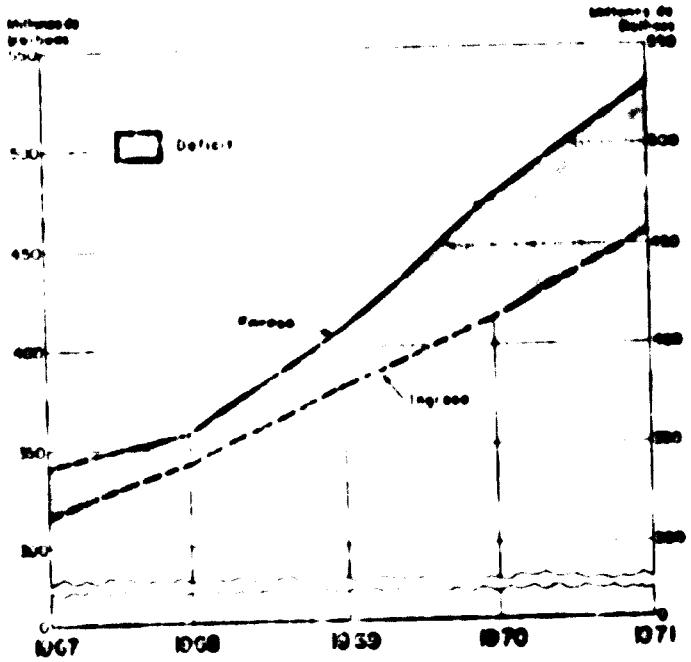
3.1.3 Current Deficit

The commercial deficit in goods and services transactions on the one hand and the transfer surplus on the other produces a negative balance of ... ... B/7... which represents the current (1971) deficit in the Balance of Payments.

3.2 Trends in the Balance of Payments

Over the past 4 years the deficient situation in the balance of payment has been aggravated. The volume of deficit has, virtually, attained only ... ... B/10.3 " In broad terms, the fluctuation over this period can be considered but marginal. However, the remarkable achievement of the year 1968 with a deficit as small as ... ... B/16.4 " merits mentioning.

[illegible]
[illegible]
[illegible] 1967 A 1971



5.3 Comparison with Latin American Countries

Inspite of the above description it appears that Panama is one of the less indebted countries in its region, by comparison with other 19 Latin American Countries. (Panama being the 3rd in the ranking order after Venezuela and Honduras). The indicator used in the comparison is:

Service payments on External Debts as % of Exports.

Seven countries contribute over 10% of their revenue from exports to servicing overseas debts, among which the three largest countries in the region - Argentina, Brazil and Mexico - which contribute over 20%.

TABLE 45. LATIN AMERICAN COUNTRIES - SERVICE PAYMENTS ON EXTERNAL DEBT AS % OF EXPORTS

	1965	1968
Argentina	20.3	27.8
Bolivia	4.7	5.4
Brasil	21.3	24.3
Chile	15.4	16.6
Colombia	14.6	12.9
Costa Rica	8.3	10.1
Dominican Republic	18.6	9.5
Ecuador	6.2	8.9
El Salvador	3.6	2.8
Guatemala	5.9	7.4
Honduras	2.9	1.7
Mexico	23.6	25.8
Netherlands Antilles	n.a.	n.a.
Nicaragua	4.2	6.9
Paraguay	6.7	8.9
Peru	19.6[1]	20.9
Uruguay	6.7	13.3
Venezuela	2.0	2.2
Weighted Sub-Total	12.9	13.7
Panama	3.3	3.6
Weighted Total	9.6	10.7

Source: World Bank
Notes: [1] 1967

The Canal Zone operations appear to cancel out a part of Panama's deficits in her international transactions.

5.4 Strategies for the future

To control the growing deficit in Panama's Balance of Payments two alternative strategies have been put forward by a study undertaken by INDESA*

Alternative A considers the possibility of reducing the domestic turnover. This implies the utilization of resources available for daily activities for the cancelling out of debts with the rest of the world, or alternatively use the gold reserves.

Alternative B considers the augment of the debitory situation by utilizing foreign deposits available in the local banks and by getting official loans.

As the first alternative is likely to affect the spending capacity of the population and consequently reduce transactions and in turn the volume of production and employment, and eventually the expansion of the economy as a whole, the study is reluctant to recommend it.

On the other hand alternative B is viewed rather favourably provided three essential courses of action are concurrently associated with it.

(a) expansion of exports at a rate capable of absorbing incremental commitments;

(b) a complementary income from foreign loans and deposit sufficient to cancel out commitments;

(c) a cautious programming aimed at defining the maximal possible limits of indebtment, in a way that the country's future development is not jeopardized.

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* INDESA - Investigacion y Desarrollo S.A.

• [illegible]

6.1 Increment of foreign Passive and Deposits in the banking system

55.6% of the current deficit in the Balance of Payments has been covered in 1971 by the ... ... B/43.4 millions residual increment in the foreign Passive in the banking system.
The rest, accounting for ... B/35.8 millions has been covered by foreign loans and private investment.

TABLE 46. PANAMA: INCREMENT IN FOREIGN PASSIVE 1970-1971
IN B/MILLIONS

	31 Dec.1970	31 Dec 1971	Change
ACTIVE:			
Bills and foreign currency	22.7	22.9	0.2
Foreign values	1.3	0.8	-0.5
Foreign loans	245.4	375.4	130.0
Other foreign current activities	43.1	81.6	38.5
Other foreign activities	7.5	13.6	6.1
TOTAL	320.0	494.3	175.3
PASSIVE:			
Foreign deposits	410.9	602.2	191.3
Foreign liabilities	22.3	43.7	21.4
Other foreign passives	7.5	12.5	5
TOTAL	440.7	658.4	217.7
Increment of Passive	120.7	164.1	43.4

TABLE 47. PANAMA: NATIONAL BANKING SYSTEM - DOMESTIC AND FOREIGN LOANS AND DEPOSITS IN 1970-1971 IN B/MILLIONS

	31 December 1970	31 December 1971	Change	
			In value	In %
Total Deposits*	714.6	975.4	260.8	36.5
Domestic	303.6	373.2	69.5	22.9
Foreign	410.9	602.2	191.3	46.6
Total Loans	665.2	938.3	273.1	41.1
Domestic	419.8	562.9	143.1	34.1
Foreign	245.5	375.4	130.2	53.0
Deposits minus Loans	49.4	37.1	-12.3	-25.0
Domestic	-116.1	-189.7	-73.6	63.4
Foreign	165.5	226.8	61.3	37.0

* Including local interbanking deposits.

The fact that the banking system has covered a major part of the current deficit in the Balance of Payments through its capability of increasing its debitory situation is of crucial importance from the domestic economy point of view.

It emerges from table 47 above that while foreign loans augmented by B/130 millions, foreign deposits had augmented by B/191 millions, leaving, thus, an availability of B/61 millions for domestic loans and a total availability of B/227 millions.

Thanks to this mechanism the banking system has succeeded to relieve the pressure generated on the economy through the Balance of Payments and by local demand for credit and loans.

6.2 Loans to the Domestic Economy

In line with the discussed above the banking system has increased the loans to the domestic economy by ... ... B/130 millions although domestic deposits have increased only by....B/ 69 millions

The persistance of this relatively favourable situation in the long-run is viewed as strongly dependent on two major factors as follows:

(a) the prominance of Panama as an International Financial Centre capable of maintaining a competitive position in the region, mainly in regard to huge neighbours as Mexico and Brazil;

(b) the capability of income generated by foreign investment to reverse, eventually, the long-established debitory situation in the Balance of Payments.

. Investment

7.1 Domestic Investment

The global domestic investment in Panama today (1971) is of the order of ... ... B/287 millions

The year 1971 has witnessed a marked slow down in domestic investment with a growth rate as low as 6.5% as compared with ... ... 21.1% in the previous year.

TABLE 8H. PANAMA: TOTAL GROSS INVESTMENT IN 1969-1971 (IN B/ MILLIONS)

	1969	1970	1971	Rate of increase (in %) 1970	1971
Public	45.1	51.0	56.1	17.8	11.0
Private	157.4	198.4	208.4	26.0	5.0
Increase in previous investment	22.0	20.3	22.8	-7.7	+12.3
TOTAL	222.7	269.7	287.3	21.1	6.5
Rate of participation in total investment (in %):	100.0	100.0	100.0		
Public sector	21.6	20.4	21.2		
Private sector	78.4	79.6	78.8		

The main responsible for this slow down has been the private sector whose growth rates had dropped from 26% to 5%; the decline in the growth of the public sector's investment has been on the other hand quite moderate from 17.8% to 11.0%

As the private sector accounts for more than ¾ of the total domestic investment, the above presents a most disquieting phenomenon. The reasons for this slow down are assumed to be the following:

(a) Expenditures on capital formation have been in 1970 abnormally high constituting 22% of the GDP.

(b) The public sector has restricted some marginal complementary availabilities provided as assistance to the private sector such as, preparation of projects, administrative capacity and counterpart funding.

(c) Restrictions in the use of funds.

This situation calls no doubt for revised policies and strategies in respect of investment as it constitutes the basic factor of economic growth, and specially when the country is attempting to attract foreign investment for the establishment of export oriented manufactures - future levels of private investment are viewed to lie and basically on the conditions of the domestic economy in terms of socio-political stability, credit availability, intensity of global demand, the marginal utilities and also on international commercial and financial markets.

7.1 Foreign Investment

The global direct foreign investment in Panama has amounted in 1970 to ... ... B/.247 millions which is nearly of the same order of the domestic investment for that year ... ... B/.270 millions

In respect of 1969, foreign investment has grown slower, the rate of growth being 19%
as compared with 29%
in the domestic investment.

The major foreign investor in Panama is the United States 92% of the total.
Other countries sharing 1% to 3% are the United Kingdom and Switzerland which have insignificant shares.

The United States and the United Kingdom reveal tendencies to strengthen their position in the Panamanian scene while Switzerland appears to be retreating.

TABLE 49. PANAMA: FOREIGN INVESTMENT STRUCTURE AND GROWTH 1969-70

Country of Residence	1969		1970		Increase in 1969-70
	Amount of direct investment on 31 Dec.		Amount of direct investment on 31 Dec.		
	In B/millions	In %	In B/millions	In %	In %
TOTAL	214.1	100.0	247.3	100.0	15.5
United States	194.6	91.1	226.9	91.9	16.6
United Kingdom	5.5	2.6	7.4	3.0	34.6
Switzerland	5.4	2.5	4.3	1.8	-20.4
Other countries	8.6	4.1	8.8	3.5	+ 2.3

Average net income effected on direct investment and on its movement during the years [illegible] is a steady ... ... [illegible]

TABLE 56. NET INCOME [illegible] AND ON ITS MOVEMENT

1969		1970	
Net income on direct investment & its movement (in $/millions)	% of income on direct investment & its movement (in %)	Net income on direct investment and its movement (in $/millions)	% of income on direct investment and its movement (in %)
69.6	21.8	53.2	21.[illegible]

3.1 Trade and destination of main imports and exports

Three quarters of Panama's imports originate from the Western Hemisphere with North America being at par with Central and Latin America. The pattern of Panama's exports reveals a further strengthening of ties to North America and Europe and rather weak relations to Central and South America as follows:

Imports by continents of origin (1971)	Exports by continents of destination (1971)
North America - [illegible]	North America - [illegible]
Central America - [illegible]	Central America - [illegible]
South America - [illegible]	South America - [illegible]
Europe - [illegible]	Europe - [illegible]
Asia - [illegible]	Asia - [illegible]

3.2 Types of imported and exported commodities

Imported commodities and materials

1. Food
2. Drinks and Tobacco
3. Raw Material
4. Minerals
5. Animal and vegetable oil and fats, processed waxes from animal and vegetable origin
6. Chemical products
7. Manufactured goods
8. Machinery and transport equipment
9. Various manufactured goods
10. Live animals

Exported commodities

(1) Sugar cane
(2) Bananas
(3) Cocoa
(4) Coffee (in grains)
(5) Frozen food
(6) Meat
(7) Fish flour
(8) Oil products (gasoline, diesel, asphalt, etc.
(9) Others

Re-exported commodities

Include all types listed under imported commodities.

1.1 Trends in the total value of imports and exports

The total value of import has been always considerably larger than the value of export.

Today (1971) total imports amount to ... B/[illegible] millions
as compared with total exports ... B/[illegible] millions

Imports are growing at a much faster rate than exports enlarging, thus, the disparity between the two, both proportionately and sensitively

During the 1967-71 period -

Import has grown by 69%
and export by ... ... 52% only

In 1967 import has surpassed export by ... ... B/[illegible] millions
whereas in 1971 the import surplus has attained B/[illegible] "

However, it should be noted that Special Imports and Special Exports which both represent domestic consumption on the one hand, and industrial development on the other, reveal signs of slowing the gap. Imports growing considerably slower than its total and those of exports a fraction faster than total exports. This means that less important goods and more local manufactured products processed by the import substitute industries are used in the local market.

AREA 91. PANAMA TOTAL IMPORT AND EXPORT IN 1967-71
VALUE F. O. B. IN B/ MILLIONS

	Import (value F.O.B. in B/billions)		Export (value F.O.B. in B/millions)	
	Total	Special	Total	Special
1967	522.4	279.2	245.5	86.5
1971	825.4	354.8	324.8	119.7
% of growth	58.0	27.0	32.0	38.0

(1) Includes re-export.

(2) Total import represents; import for the domestic consumer market plus imports being deposited in the Free Zone.

(3) Special import represents: Imported goods for domestic use and those re-routed from free zones to the domestic consumer market.

Special export represents: The residue of local manufactured goods produced for exports.

Imports and Exports outside the Colon Free Zone

The true dimension of Panama's weak exporting capacity is revealed by deducting the share of the Colon Free Zone from both total Import and Export.

TABLE 5.7. PANAMA: IMPORT AND EXPORT IN AND OUTSIDE THE COLON FREE ZONE

		Import value f.o.b. in B/millions	Export value f.o.b. in B/millions	Import/ Export ratio
1967	Total	322.4	245.3	1.3
	Colon F.Z.	129.2	185.3(1)	0.6
	Residue	193.2	59.9	3.2
1974	Total	525.4	324.8	1.6
	Colon F.Z.	217.6	255.7(1)	0.8
	Residue	307.8	69.1	4.5
% of increase 1967-74	Total	63.0	32.0	
	Colon F.Z.	68.0	38.0	
	Residue	59.3	15.9	

It emerges that Panama's Import for own domestic use is today of an order of ... ...B/308 millions

Whereas her exports attain ... ...B/ 69 million only

When excluding the transactions taking place in the Colon Free Zone it turns out that Panama imports for self consumption 4½ times more than she exports and that while her Imports have increased by 50% and over in the last five years, her Exports increased by 15% only.

Three quarters of the Exports outside the Colon Free Zone are consisted of agricultural products and processed food and a quarter of petro chemical products and others.

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(1) re-exports

8.5 The share of the Colon Free Zone in Panama's Import and Export

The Colon Free Zone is responsible for the major part of Panama's Imports and Exports.

The value of imported goods into the zone is today (1971) of the order of ... ... B/217 millions

representing ... ... 40% of Panama's total Imports.

The value of re-exported goods being ... B/255 millions

representing ... 75%
of Panama's total Exports.

TABLE 51. PANAMA: IMPORT AND EXPORT IN THE COLON FREE ZONE

	Import (in B/millions)	Re-export (in B/millions)	Share in total (in %)	
			Import	Export
1967	120.2	185.8	37.0	75.0
1971	217.6	255.7	41.0	75.0

It emerges also that the Colon Free Zone has increased both its Import and Export shares in the country's total.

2. General

The Canal Zone, which has emerged due to Panama's singular location and physical configuration, constitutes today a major node of sea - communication in the Western Hemisphere. By virtue of its booming activities and the resulting gains generated on the country's economy it has become a dominant factor in its economic life.

Together with the Colon Free Zone it has contributed to the establishment of a major source of income which, virtually, has withstood, so far the Panamanian economy.

2.2 Functions, problems and opportunities

Excavated in 1912 the Panama Canal has created a short-cut between the Atlantic and the Pacific Oceans and, thus, largely rationalised international sea-traffic.

The Panama Canal comes under the United States jurisdiction and is managed by an American Company, the 'Panama Canal Company'.

The Panama Canal and its ports - Cristobal and Balboa form the 'Canal Zone" - a dynamic focus for sea-transport in the Western Hemisphere - which has become, over the years, one of Panama's major sources of income.

Activities taking place in the Canal Zone are: bunkering, delivery, and collection of cargo, transhipment, supply and collection of goods to and from the Colon Free Zone as well as port services for passenger vessels.

Figures available for 1966 report on 14,000 ships crossing the Canal that year, and data for 1967-70 estimates the Panama Canal traffic to be of the order of 117 millions metric tons.

Cristobal at the Atlantic end is the largest deep water port in Central America and the world's third largest bunkering port. It is also larger than Balboa, at the Pacific end, and handles about two-thirds of the total volume of the cargo mentioned above.

However, facilities at Cristobal today are geared to the handling of break-bulk cargo and no special facilities for containers on roll-on roll-off ships or bulk handling equipment do exist.

Whether the Canal Zone will continue to be in the future a centre of booming activity and a source of major income for Panama or whether it will confine itself to its present scale and, consequently, as present trends already indicate decline in its importance and its impact, largely depends on its adaptation to containerisation technologies.

The bulk of cargo, at present, appears not to provide economic justification to such capital-intensive facilities.

However the provision of such might turn the Canal zone into a center for container distribution (along lines like Europe-Japan and/or United States-Japan) by which cargoes are estimated to increase tremendously - about 17 times it is mentioned.

These opportunities have been recently explored in depth and findings cast heavy doubts in regard to their [illegible], while the adaptation of the Canal to larger vessels still requires the construction of a new sea-level canal involving a capital expenditure of the order of 4 billiards. On base, the cargo which is likely to be lost at the absence of such a facility will amount to no more than 4% of the total potential postulated for 1985, i.e., 4% millions out of 148 millions metric tons.

TABLE 14. PANAMA CANAL TRAFFIC 1970-1985

Year	Number of Transits			Cargo (000s metric tons)		
	Transit	By-Pass	Total Potential	Transit	By-Pass	Total Potential
1971	13,697	96	13,793	111,984	6,838	118,822
1976	13,862	198	14,060	122,800	7,616	130,416
1977	14,262	192	14,454	127,356	24,771	151,455
1980	15,154	222	15,376	137,961	28,462	166,423
1983	16,681	250	16,931	156,329	30,758	187,087
1985	17,877	270	18,147	148,994	28,268	177,262

*Including free transits of US, Panama and Colombian government vessels

Source: Economics Research Associates.

The deciding recommendation of the study group was therefore that the construction of a new Canal should be deferred as long as possible.

Nevertheless in view of the indirect benefits which are likely to stem from this operation into the "Panamanian economy, the creation of a "container-bridge" as an interim solution has been considered. The container bridge is to be basically a deep-water container terminal on each side of the Isthmus linked by a trans-isthmian road or railway. Ships too large for the Panama Canal could discharge cargoes on one side while a sister ship will load the same cargoes on the other side for the onward voyage.

The legal possibility for this "container bridge" to be under Panamanian jurisdiction constitutes an additional advantage to Panama's interests.

It is evident that future prospects of the Zone will be determined by decisions in the above discussed critical spheres.

Meanwhile, the various aspects of the present impact of the Zone on Panama's economic life is presented in the following paragraphs.

9.1 Contribution to employment

9.1.1 Employment demand and supply 1960-70

The Canal Zone supplies today (1970) about 22,000 jobs to the Panamanian economy which accounts for 5.2% of the total available in the country as a whole.

This is a considerable contribution which is, for instance, at par with that of the construction sector or with half that of the industrial manufacture sector. Nevertheless, the Zone has 1,500 unemployed of its own which have increased over the past decade.

TABLE 55. PANAMA: LABOUR FORCE AND JOBS IN THE CANAL ZONE 1960-70

Sectors	1960 (in Thousands)			1970 (in Thousands)			growth of (unemployment 1966-70 (in %)
	Labour force	Jobs	Unemployment	Labour force	Jobs	Unemployment	
Total	330	300	30.0	466.2	432.9	33.3	11.1
Canal Zone	19	18	1.0	23.7	22.4	1.3	+30.0

9.1.2 Trends in the growth of jobs

Over the past decade the growth of jobs in the Zone has lagged behind the pace of the country.

Yearly growth rates have attained only	...	...	2.8%
as compared with the country's average	...	...	3.7%
and with the non-agricultural sector's average	...	...	6.8%

It would appear that the potential of the Zone in terms of job is approaching saturation point and consequently growth is likely to be even slower in the future.

No more than a total of 2,800 new jobs are assumed to be established till 1980 resulting in a continuously reduced share of the Zone in the country's total jobs.

TABLE 56. PANAMA: SHARE OF THE CANAL ZONE IN THE COUNTRY'S TOTAL JOBS - 1960, 70, 80

	1960	1970	(Forecast) 1980	
			Alt. A	Alt. B
Total jobs (in thousands)	300.0	432.9	650.7	599.7
Jobs in the Canal Zone (in thousands)	18.0	22.4	25.2	25.2
Share of the Canal Zone (in %)	6.0	5.2	3.8	4.1

9.3.3 Composition of personnel and their salaries

The Canal Zone is the place in Panama where the highest salaries are paid. The average salary accounts for B/620 as compared with B/304 in the Metropolitan Area and B/250 in the rest of the country.

This is basically due to the policy of applying U.S. minimum wage legislation.

The employed personnel in the Zone is composed of 16,000 Panamanians and 6000 North Americans.

The total payroll in 1971 attained: ... ...B/156 millions
out of which, to panamanians: ... ...B/ 84 "
and to North Americans. ... ...B/ 72 "

The average monthly salaries of the North American personnel is today (1971) more than double than that of the panamanian - B/1,112 as compared with B/449 respectively. However, a gradual closure of this gap is implied by the higher yearly rates of increase in the salaries of the Panamanians.

TABLE 57. PANAMA: AVERAGE MONTHLY SALARIES IN THE CANAL ZONE

	Average monthly salaries (in Balboas)		
	Average	North-American citizens	Non-North American citizens
1967	460	852	317
1971	649	1,112	449
Yearly growth rate for 1967-71 (in %)	7.7	6.9	11.5

9.4 Contribution to the Gross Domestic Product 1960-70-80

The Canal Zone contributes today (1970) about .. B/70 millions to the Gross Domestic Product which represents a share of .... 9.1% in the total.

Over the past decade the Zone's output has manifested an accelerated growth with a 8.7% annual growth rate as compared with 6.1% of the GDP.

However, during the last 5 years growth rates have markedly dropped and it appears that a period of slower expansion has begun for the Zone:

Forecasts for 1980 seem to share this view in assuming lower growth rates and equal to the country's averages: 6.5%-6.0%. Such a pace will, nevertheless, permit the Canal Zone to double its output from B/70 millions at present to B/132-B/151 millions in 1980 and also retain a steady share of 9%+ in the GDP.

TABLE 58: PANAMA: CONTRIBUTION OF THE CANAL ZONE TO THE GROSS DOMESTIC PRODUCT 1960-70-80

	1960	1965	1970	Yearly growth rates (in %)			1980			
				1960-65	1965-70	1960-70	Alt.A	Alt.B	Alt.A	Alt.B
GDP (in B/millions)	349.8	530.0	759.4	8.7	7.5	8.1	8.0	6.5	1[illegible]	1[illegible]
Canal Zone (in B/Mill.)	30.4	51.4	70.3	11.1	6.5	8.7	8.0	6.5	134.8	132.[illegible]
Share of Canal Zone in GDP (in %)	8.7	9.1	9.3						9.2	9.2

This growth which is considerable in itself becomes more dramatic when considering it from the product per employee viewpoint.

This will be discussed in the following paragraph.

2.3 Level of Productivity

The level of productivity in the Canal Zone is medium. The job/product ratio being ... and the product per employee B/.[illegible] twice the country's average and similar to that of the Industrial Sector.

Forecast related to jobs and product in respect of 1980 imply an outstanding improvement in the level of productivity.

The product per employee attaining
B/.[illegible] by the low hypothesis of
B/.[illegible] " " high "

TABLE 59. PANAMA: PRODUCT PER EMPLOYEE IN THE CANAL ZONE 1950-70-80

	1950	1965	1970	Yearly growth rates (%) 1950/65 -65	1965/70 -70	1950/70 -70	1970 -80	1980 Alt.A	1980 Alt.B
Panama's Average	1,[illegible]	1,[illegible]	1,[illegible]	3.3	3.9	4.2		2,[illegible]	2,[illegible]
The Canal Zone	[illegible],600	2,[illegible]	3,[illegible]	8.8	4.1	6.4	6.4	6,[illegible]	9,200

2.4 Contribution to the National Income

In recent years (1956-70) the Canal provided a steady 1% yearly contribution to the National Income.

In flat-to terms this has meant a growing amount
from B/.34 millions in 1956 to
B/.79 millions in 1970. (See Table 60 below)

TABLE 60. PANAMA: CONTRIBUTION OF THE CANAL ZONE TO THE NATIONAL INCOME

	1956	1967	1968	1969	1970
National Income (in B/.millions)	909.0	696.3	695.7	788.3	8[illegible].8
The Canal Zone (in B/.millions)	34.1	68.8	78.8	77.1	79.1
Share of the Canal Zone (in %)	3.7	9.8	10.8	10.8	9.4

2.1 Effects on the Balance of Payments

The most outstanding effect of the Canal Zone is its contribution to the Panama's balance of payments.

In current account Panama enjoyed a net surplus of B/145 millions in her transactions with the Canal Zone in 1970. This has been a considerable increase in relation to 1965 when the surplus was B/. millions. For the period 1967-70 the surplus has accumulated to a considerable amount of B/ millions.

This large and steady growing surplus has permitted Panama to stand a large and growing deficit in her transactions in goods and services with the rest of the world without enduring the deflationary consequences that this would normally entail.

2.2 Effects on Industrial Development

The host of benefits and opportunities engendered by the Canal Zone on the Panamanian economy have incorporated, however, some aspects hampering industrial development.

The surplus generated in the economy from the Zone's transaction in goods and services and through the comparatively high scale of salaries, applied by U.S. minimum wages legislation, has given rise to a growing supply of money in the market resulting in an increased spending power and, eventually, in an inflatory situation, this has created a closed circle in which rising income caused the increased prices of goods and vice versa.

Under these circumstances, the prices of Panama's products have been higher than those of the neighbouring countries and therefore with little chance of competitiveness overseas.

The main consequence of this situation, so far, was that Panama has not succeeded to attract export-oriented industries and that Panama's production has been limited, basically, to enterprises catering for the domestic market to substitute import, protected either naturally (by sparing transportation costs of imports) or artificially (tariffs and quotas). Import has been, so far, very small in quantity and was composed of: three quarters of agricultural products, one fifth of petro chemical products and a negligible % of manufactured commodities.

This issue becomes of critical importance in the context of the present study in which the prospects of an export-oriented free zone at the Tocumen Airport is explored.

This state of events would demand from the Government a major endeavour by which wages and prices are largely stabilized, levels of productivity elevated and large scale incentives provided before an Industrial Free Zone at the Tocumen Airport becomes a viable proposition to foreign-based manufacturers.

10.1 General

The Colon Free Zone is today a focus of international trade in the Western Hemisphere. Situated at the Atlantic entrance to the Canal it owes its prosperity largely to opportunities provided by its sensitive location.

Alike the Canal Zone it represents a specific activity making remarkable contributions to the Panamanian economy.

10.2 Characteristics

Established by the Panama Government in 1948, the Colon Free Zone resulted from a recommendation of a study conducted by the United States Foreign Trade Zone Board.

It constitutes a segregated area without resident population on a 100 acres of land for retail trade located along the Atlantic coast of Panama, at the cross roads of world trade at the Atlantic entrance to the Panama Canal.

Goods of all nations may be brought duty free, without payments of taxes of any kind, or consular fees. They may be stored repackaged, processed, labelled, graded, exhibited, cleaned, tested or manipulated in any legal manner and re-exported to any foreign destination save to Panama, which is considered in this respect as foreign as any other country, and consequently the Free Zone commodities are treated as liable to duty as though they were direct imports from any other countries.

The Colon Free Zone functions as an autonomous institution of the Republic of Panama. It is administered by a board of Directors comprised of qualified business men and daily operations are guided by a managerial staff.

The Colon Free Zone began operation in 1953 and goods valued at B/14 millions were handled in the first year. Over the past 2 decades it has become a hub of international distribution commanding a vast hinterland including Central and Latin America and also remoter countries as Europe and Japan.

The Zone serves today 187 companies most of which are United States, United Kingdom, West Germany and Japan based.

The total value of Imports and Exports handled by the Zone today (1971) is of the order of ... ... B/473 millions
out of which export accounts for ... ... B/256 "
and imports for .... B/217 millions

The yearly growth rate approximates 15%-20%.

The [illegible] of the Panama facilities provided an [illegible] to capture existing [illegible] in the zone.

These incentives cover four facets of [illegible] Trading, [illegible], freight and rentals.

TABLE 61. PANAMA INCENTIVES PROVIDED AT THE COLON FREE ZONE

Trading	Finance	Freight	Tariff scooping potential for U.S. [illegible]
1. Efficient International Banking	1. Favourable long-established [illegible]	1. Building steaming service with U.S.A.	1. The longest the renting period the smallest the rent/sq.m/month, the largest the space the smallest the rent sq.m/month as follows: (rents in $)
2. Parity and convertability with U.S. Dollars		2. A daily express service to all principal Latin American Cities	

Area in sq.m.	Rent/sq.m/month for 1st year	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

3. Tax exemptions:- remittance abroad of earnings on capital 90% reduction from normal income tax for international business	3. Availability of trained personnel both in Spanish and English	3. Rapid processing of customs orders at half the cost in the U.S.A.
	4. Allowance to foreign based firms to be controlled by non-resident non-Panamanian [illegible]	4. Public warehouses in bond
	5. Modern [illegible] accommodation in line with U.S. standards	5. [illegible] computerised with reliable routine
	Business practice similar to U.S.A.	

[illegible] for the estimation a prospective value of exports of the order of [illegible] 9.1 billion the [illegible] means a growth of [illegible].

The [illegible] of [illegible] and its [illegible] are [illegible] is discussed in the following paragraphs.

[illegible] of trade

[illegible] by [illegible]

The structure of imports and exports in the [illegible] Free Zone by commodity is the following.

TABLE 57. [illegible] STRUCTURE OF IMPORT AND EXPORT OF THE [illegible] FREE ZONE

Group	Commodity	Imports (in $)	Exports (in $)
0	Food Products	9.7	9.5
1	Drinks and Tobacco	0.9	4.9
2	Raw material except Fuel	1.3	0.1
3	Fuel and Mineral Oils	9.1	-
4	Fats, Animal and Vegetable Oils	-	-
5	Chemical Products	27.8	49.9
6	Manufactured Products	16.1	19.3
7	Machinery and Transport Equipment	20.8	14.1
8	Other Manufactured Goods	29.7	24.2
	TOTAL	100.0	100.0

It appears that about three quarters of the Free Zone's business is concentrated over a fairly narrow range of products to which the Zone offers outstanding fiscal advantages or services of repackaging.

These are ranked below according to their share in the total:

(1) "Chemical Products" from group 5 (*)
including Medical & Pharmaceutical products perfumes and cosmetics.

(2 "Manufactured Goods" from group 8 (*)
including clothing, cameras and accessories photographic supplies, watches, gramophones, tape recorders, etc.

(3 "Machinery and Transport Equipment" from group 7 (*)
including: Radio, Television, Telecommunications and other electronic apparatus, telephone and telegraph equipment, motor vehicles.

(4) "Manufactured Products" from group 6 (7) (*)
including: Textile, silver, gems, jewels, cutlery.

(5) Drinks and Cigarettes from group 1. (8) (*)

10.3.2 By Continents and Countries of origin and destination

The structure of Imports and Exports for 1970 by Continents and Countries of origin and destination has been the following (see Table 6* attached).

---

*Source of grouping: (a) Estadisticas Panamenas
Comercio Exterior 1969

(b) "Estudio Para el Desarrollo
De La Zona Libre De Colon"

By:

Livesey, Henderson & Partners, London.

TABLE 63. PANAMA: RANKING OF CONTINENTS AND THEIR COUNTRIES ACCORDING TO THEIR SHARE IN THE IMPORT AND EXPORT OF THE COLON FREE ZONE (1970

IMPORT				EXPORT			
Ranking	Continents	%	Countries (in %)	Ranking	Continents	%	Countries (in %)
1	Asia	35.6	Japan (27.3) Hong Kong (5.7)	1	South America	28.1	Venezuela (8.2) Brazil (6.4 Chile (4. Colombia 4.6 Peru 2.9 Argentina 1.9 Paraguay
2	Europe	29.7	United Kingdom (6.0) West Germany (5.0) Italy (3.5) Netherlands (3.5) Switzerland (2.9) Sweden (2.5)	2	Central and the Caribbean	20.1	Mexico 8. Aruba 3.2 Costa Rica 2.7 El Salvador 2.0 Honduras 1. Dominican Republic 1.1 Curacao
3	North America	30.4	United States (25.6)	3	North America	15.4	United States
4	South American	3.6	Columbia (1.8)	4	Asia	8.4	Japan 5.9
5	Central America and the Caribbean	2.7	Mexico (2.0)	5	Europe	6.2	United Kingdom 1.9 Switzerland 1.6 Spain (1.4)

The main findings emerging from the percentages (in Table 44) are the following:

(a) The pattern of import is more centralized than the pattern of export.

(b) More than half of the imports are from three countries (Japan, United States and United Kingdom), a quarter from Western Europe and a negligible part from neighbouring countries.

(c) About half of the exports are distributed in no less than 14 of the neighbouring countries, less than a fifth to the United States and a negligible part to Japan and Western Europe.

(d) Japan, U.S.A. and U.K. use Colon as a base for their marketing activities in Central and Latin America.

Forecasts in respect of the Zone's exports for 1981 assume a growing affinity of the Zone to Latin American countries which are likely to absorb in the future about 4% of the Zone's total exports.

(c) By means of transport

Most of raw material - 80% - components and finished goods arrive to the Zone by sea. Only 20% arrive by air.

After processing, 60% are trucked to Tocumen Airport and are sent to Latin America and other markets by air, only 20% are shipped by sea, the rest is forwarded by land.

The value/weight ratio (Balboas/kilos) of commodities shipped by air:

	In imports		In exports	
	Balboas/Kilos	Balboas/lbs	Balboas/Kilos	Balboas/lbs
1970	19.6	8.9	13.7	6.2
1965	26.5	12.0	21.5	9.8

The lower ratio for 1970 reflect the changing attitude to air freight and the consequent inclusion of a wider range of commodities with lower value/weight determinate in the category adaptable for this means of transport.

However, the wide difference between such commodities and those shipped by sea is reflected by the ratio of the latter category not exceeding 4.

10.4. Employment

10.4.1. Jobs

The Colon Free Zone employs today (1978) about 5000 persons. During this past decade the number of jobs in the Zone has grown by 800% which is by far much higher than the average growth of jobs in the economy - 40%.

The anticipated number of jobs for 1981 is 11,000 which represents a further growth of 120% for the present decade.

TABLE 64. PANAMA JOBS IN THE COLON FREE ZONE 1970-1981

Year	Total jobs
1950	1,000
1965	1,250
1970	3,500
1975	5,200
1978	7,728
1981	10,900

On basis of the established trends at least 50% of the Zone's employees will be white collar.

It should be noted that the Free Zone's contribution in the total supply of jobs is relatively very small - 1.0% and is likely to remain negligible by 1981 even when its number has trebled and its share in total jobs doubled by constituting 1.5% of the total.

10.4.2. Salaries

Salaries in the Colon Free Zone are much lower than those established in the Canal Zone.

The average monthly salary in the Colon Free Zone is of the order of B/248 which is as little as a third of the average in the Canal Zone and half of that payed to non-americans there.

[illegible]

[illegible] Imports

The contribution of the Colon Free Zone to the GDP in the [illegible] estimated under the input-output approach

PANAMA: [illegible] (In Thousands)

	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible] from Zone	[illegible]	[illegible]
Imports C.I.F.	[illegible]	[illegible]
Imports at Colon Free Zone	[illegible]	[illegible]
Gross output	[illegible]	[illegible]
Imports for current consumption in the Zone from Panama & [illegible]	[illegible]	[illegible]
Net output	1,[illegible]	22,[illegible]

The immense growth in the net output of the Zone is evident. Nevertheless the contribution of the Colon Free Zone to the Gross domestic product is rather small and no more than 4.8%.

Even when assuming a 10.4% annual growth in the value of total trade for this decade, whereby the net output of the Zone is likely to reach B/65-75 millions - the share in GDP in 1981 will still remain under 5%

TABLE 66. PANAMA: SHARE OF THE COLON FREE ZONE IN THE GDP 1970, 1980

	1970	1980	
		Alt. A	Alt. B
GDP (in B/Millions)	759.4	1,640.7	1,422.6
Colon Free Zone (in B/M.)	31.0	75.0	65.0
Share of the Colon free Zone (in %)	4.8	4.6	4.6

[illegible] level of productivity

The level of productivity in the Colon Free Zone appears to be the highest in the country as demonstrated by the following indicators:

Job/product ratio [illegible]

product per worker { [illegible] } B/per

Nevertheless the average monthly salaries are no higher than B/ [illegible]

[illegible] effects on the Balance of Payments

The impact of the Colon Free Zone is much more important in so far as it affects the Balance of Payments.

The estimated net gains to Panama's balance of payments have been of the order of B/ [illegible] millions.

This was calculated by deducting from the gross output of the zone B/ [illegible] million imports for self consumption and [illegible]% of the value added which is assumed to be paid abroad.

TABLE 6 [illegible] PANAMA [illegible] CONTRIBUTION OF THE COLON FREE ZONE TO PANAMA'S BALANCE OF PAYMENTS (in B/Millions)

	[illegible]	[illegible]
Value added	1.8	[illegible].0
Less: wage bill	2.2	8.7
Non-labour income*	-0.4	[illegible].3
Gross output	9.9	64.0
Less: imports for self consumption from abroad	2.0	8.3
Less: value added paid abroad*	-0.2	11.1
Net gains to Panama Balance of Payments	8.1	[illegible].3

*Non-labour incomes.

As evidenced by the above figures the Colon Free Zone's contribution to the country's Balance of Payments has grown steadily, from less than B/10 millions to B/45 millions. If the Zone continues to expand its possible contribution in 1981 may well range between B/100 millions to B/120 millions.

10.7 Effect of the Government's Revenue

As opposed to the marked effect on the Balance of Payments the Colon Free Zone has little effect on the Government's revenue.

Tax exemptions and subsidies amounting to B/200 million a year have reduced the net Government revenue from the Zone to no more than ..... B/1.5 millions in 1966
and ..... B/2.5 " " 1970
which represent only 1.5% of the government's income.

10.8 Indirect effects and externalities

Indirect effects arising from the presence of the Colon Zone are:

(a) Stimulation of telecommunication services, banking, insurance advertising, hotels, office equipments, printing, packaging materials and construction as the F.Z. constitutes an export market for these services.

(b) Establishment of an air cargo market of B/8.4 millions in 1970.

(c) Creation of an ocean cargo market of B/13.0 millions.

(d) Enhancement of the road haulage industry the earnings of which approximate in 1970 - B/750.000

(e) Stimulation of the insurance industry premiums amounting annually to ... B/1 million

It is estimated that the Panama Canal company also derives benefits from the above freight movement amounting to B/830,000 in 1970.

10.9 Effects on the Metropolitan Area's economy

10.9.1 General

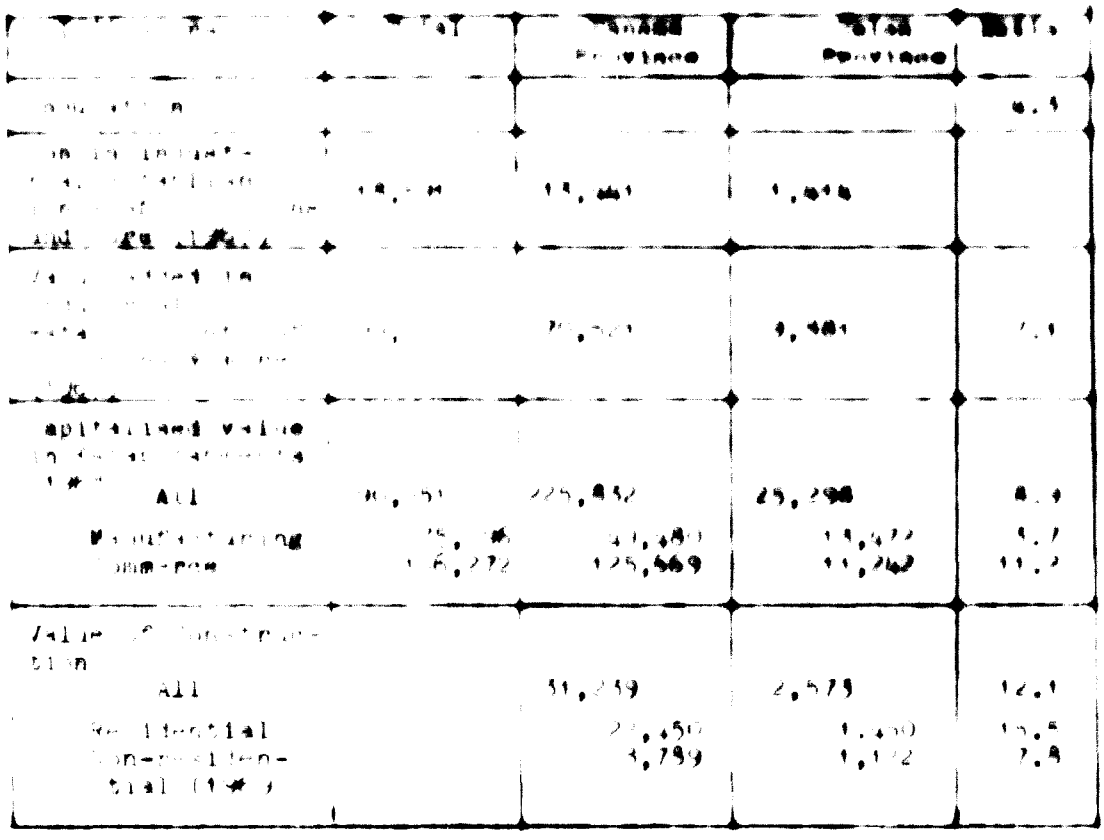
The direct and indirect effects of the Colon Free Zone on the Metropolitan Area and on Panama City in particular are even more substantial than its effect on the National Economy. It is close enough to the capital to be served readily from industries and services available there and the improvement planned for the trans isthmic highway is likely to accentuate this trend.

The city of Colon being much smaller, less developed having physical constraints for expansion and a poor housing stock has been far less attractive as the Zone's supplier of services and place of residence of both linked businesses and top level personnel. The result of this has been a further stimulation of Panama City and continuous stagnation of Colon.

The failure of Colon to share the economic growth occurring in the Metropolitan Area is evidenced by a series of indicators: jobs, value added, capitalized value, construction value taxes, population shifts, number of telephones are manifolds in the Panama Province as compared with their parallels in Colon Province.

D.9.2 Jobs and Value added in industrial establishments of

The following table shows Panama/Colon ratios in terms of: Jobs and value added in industrial establishments of 5 persons and more as well as capitalized value of all establishments value of all construction to range between 7 and 12 while the population ratio is no more than 4.3.



Telephones

The number of telephones per capita, often used as an indicator for centrality, activity and linkages provides in this context an additional dimension reflecting the nodality of Panama City both at the metropolitan and national levels on the one hand and the weakness of Colon on the other.

TABLE 69. PANAMA: TELEPHONES IN PANAMA, PANAMA CITY AND COLON 1967, 1971.

Place	1967			1971		
	Total	%	Telephones per 100 inhab.	Total	%	Telephones per 100 inhab.
Total	51,065	100	4.3	95,613	100	6.8
Panama City	47,628	82	13.2	80,283	87	22.1
Colon	5,939	10	9.2	9,638	10	14.0

[illegible] Taxes

[illegible]

TABLE [illegible] [illegible]

	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
All taxes	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Of which					
Indirect taxes	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Foreign trade	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Production and sale	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Other	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Of which					
Direct taxes	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Incomes and Profits	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Other	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

1969 Population shifts

The consequence of Colon's economic stagnation has been a steady drift of population away from the area to Panama City. The population of Colon has declined relative to the rest of the republic and particularly to Panama City.

During the sixties, Colon has lost 10,000 people, accounting for 13% of its population in 1960.

	Panama City	City of Colon
[illegible] revenue	[illegible]	[illegible]
[illegible] Increase	[illegible]	[illegible]
[illegible] Natural Population	[illegible]	[illegible]
[illegible] Migration	[illegible]	[illegible]
Net Migration	[illegible]	[illegible]

The [illegible] between these two cities has, [illegible] Panama City, facilitated this trend. Today [illegible] to the Free Zone and to the [illegible] from Panama City.

Main Findings [illegible]

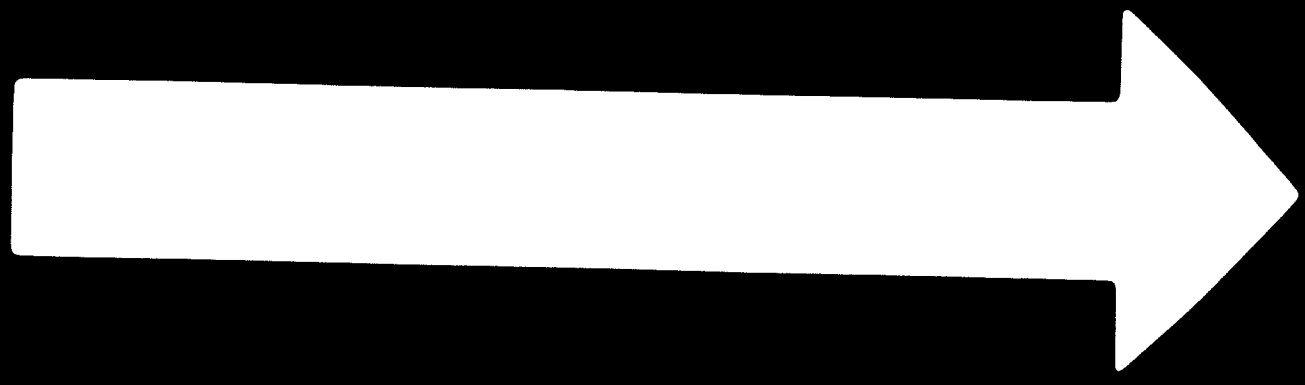
Problems and opportunities of the Zone recently explored by the [illegible] Wesley Hamerman & Partners in their "Study [illegible] Development of the Canal Free Zone" had produced the following findings:

(a) The main problem facing the Zone's future expansion is unavailability of contiguous land. Out of the possible options the [illegible] France Field emerges as the most preferable proposition which has, however, the inconveniences of constituting a U.S.A. military reserve in the Canal Zone and its release would demand negotiations with USA. Had the above failed, the reclamation of the Folk River is suggested as a second best.

(b) There is little prospect of successful industrial development other than those activities ancilliary to warehousing.

(c) The main opportunities of the Zone appear to stay in the trading domain:

With an Exports value of B/811 million - thrice the present one - it purports to contribute in 1980 65-75 millions to the GDP and effect a surplus of B/100-120 millions, to Panama's Balance of Payments.



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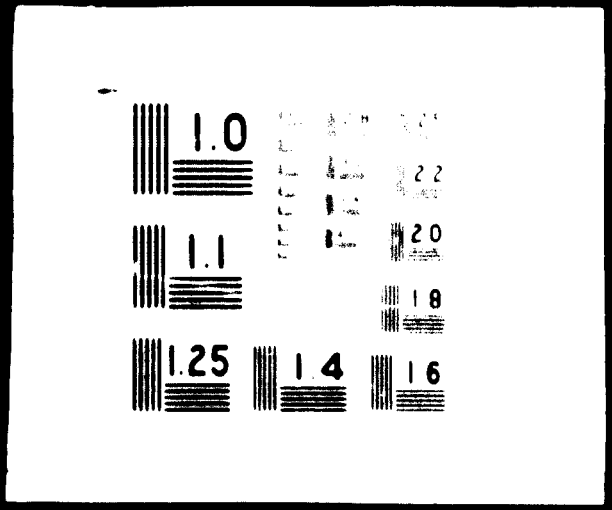

11. The Tocumen Airport

11.1 General

The Tocumen airport is situated within the Tocumen village area at the outskirts of Panama City at about 16 miles (24 km) of the city centre.

It extends along the Tocumen River, is crossed by the Inter-American Highway at 3 miles distance from the Pacific coast.

This key global position, at a crossroad of international significance - linking the Atlantic to the Pacific and North America to South America and in the vicinity of a free trade zone of international standing explains the enhanced growth of its activities.

Its prominent place as a cargo processing centre among Latin American countries is evidenced by the handling of 10% of their total air cargo and by securing a third place in the ranking of these countries by volume of cargo freight.

Additionally, it handles also 40% of Panama's total domestic cargo. Over the past 14 years the growth of the volume of activities at Tocumen airport has been featured with marked fluctuations which, nevertheless, combined to an average yearly growth rate of the order of 10%. (The noticeable falls in the years 1961, 63, 66, 69 being due respectively to expansion of the summary introduction of the jet, restructure of airline routes and political uncertainty).

However, today (1969) the total volume of passengers has more than trebled, since 1955 and so has the volume of cargo in relation to 1961.

Volume of passengers being 900,000
and of cargo ... ... 34,000,000 kilos

TABLE 72. PANAMA: TOCUMEN AIRPORT
TOTAL VOLUME OF PASSENGERS - 1955, 1969

Year	Total number of passengers (in thousands)	Total growth In %	Annual growth rate in %
1955	245.3		
1969	897.5		
1955-69		265.0	9.7

TABLE 73. PANAMA: TOCUMEN AIRPORT
TOTAL VOLUME OF CARGO 1961, 1969

Year	Total volume of cargo in thousand kilos	Total growth (in %)	Annual growth rate (in %)
1961	10,838		
1971	34,020		
1961-1971		214.0	10.7

32% of total passengers' trips are with North America-
14% with Central America -
26% with South America -
a total of 72% with West Hemisphere as a whole.
2% - only with Europe
26% with rest of the world.

The incompatibility of the airport facilities with such volumes of passengers and cargo is already discernible at present; the likelihood of a further deterioration in the future capable of building-up a severe jeopardy to the airport orderly operation and growth has led the Government of Panama to commission the Parsons Corporation from Los Angeles with the preparation of a feasibility study a nd a masterplan aimed at raising the existing airport to international standard.

11.2 The Master Plan for an International Airport at Tocumen

11.2.1 Passengers and Cargo projections[1] and forecasts[2]

The preparation of a Master Plan for an International Airport at Tocumen has entailed a through analysis of present trends and a wide range of detailed projections and forecasts aimed at assessing future demand for the various airport facilities.

---

(1) Projection - based on unchanged conditions in airport facilities.

(2) Forecast - based on improvements of existing airport and the erection of a new one.

A most concise summary of the basic finding in the Parsons' Corporation Study is presented below.

The various types of passengers and cargo are grouped in the following summary into two major groups: International and Domestic.

(a) International Passengers

The annual growth rate for the period 1955-69 has been 9.6%

Projections using the logistic curve indicate that passengers are likely to increase by 3.3 times only from 796,000 in 1969 to ... ... 2,660,000 in 1990 which means an average growth rate of 6.3% for the 1969-90 period.

However, international passengers volume can be expected to attain 5,280,000 in 1990 with the installation of new facilities.

This growth which implies an annual growth rate of 9.4% means that present growth trends can be maintained and volume of international passengers increase by 6 times if the existing Airport is modernised and expanded.

(b) Domestic Passengers

The annual growth rate for the period 1955-69 has been 10.1% as domestic passengers have no alternatives, growth has been assumed to reach a rate of 12.2% by which domestic passengers would increase by 11 times from 91,000 in 1969 to ... ... 1,050,000 in 1990.

(c) International Cargo

Based on the annual growth rate of 11.9% for 1961-69 projections using the logistic curve indicate that International Cargo at Tocumen can possibly grow by 3.5 times only from ... 25 million kilos in 1961 to ... 89 million kilos in 1990 this representing a growth rate of 6.1%.

However, forecasts assuming the introduction of new facilities postulate a growth rate of ... 13.4% by which cargo might grow by 14. times and attain 358 million kilos. This figure may even increase if cargo generated by an industrial free zone within the airport are included.

Nevertheless, the internal structure by the International Cargo at Tocumen by sources of origin as suggested by the forecasts is likely to remain similar to the present one.

The Colon Free Zone and the Canal Zone will continue to generate the same major bulk - 70%

The Colon Free Zone's share will though somewhat decrease and the Canal Zone's share - increase, as the Colon Free Zone is expected to effect a slower growth; finally, the share of the Republic of Panama will remain the smallest at a constant 13% and so will the transfer share remain - 18%.

Total cargo is expected to grow by 11 times.

TABLE 74. PANAMA: TOCUMEN AIRPORT- THE STRUCTURE OF INTERNATIONAL CARGO 1971, 1990

Sources of origin of cargo	1971		1990		% of growth 1971-1990
	(in thousand kilos)	in %	(in thousands kilos)	in %	
Colon Free Zone	14,700	46.3	153,600	42.8	940.0
Republic of Panama	3,900	12.3	45,350	12.7	1000.0
Canal Zone	7,530	23.7	94,750	26.5	1158.0
Transfer	5,620	17.7	64,300	18.0	1044.0
Total	31,750	100.0	358,000	100.0	1018.0

(d) Domestic Cargo

Based on the annual growth rate of 9.5% for the period 1962-68 the logistic curve indicates a possible growth of only 6.2% and Domestic Cargo to grow by 3.8 times
from ... 2.2 million kilos in 1969
to ... 8.4 " " in 1990.

However, the annual growth rate may rise to 11.4% and cargo increase by 11 times to attain ... 23 million kilos if new airport facilities are provided.

(e) Summary

A summary of total volumes of passengers and cargo in 1980, 1990 is presented below;

It emerges that the volume of passengers is expected to increase by 4 times and of cargo by 3.4 times in the absence of any improvements in the airport, whereas, passengers may grow by 7 times and cargo by 14 times with the provision of a new airport.

TABLE 75. PANAMA: TOCUMEN AIRPORT - VOLUMES OF PASSENGERS AND CARGO IN 1969, 1980, 1986, 1990

		1969	Annual growth rate	1980		1986		1990		annual growth rate 1969-1990 (in %)		Total growth 1969-1990 (in %)	
				projections	forecasts	projections	forecasts	projections	forecasts	projections	forecasts	projections	forecasts
ssengers in thousands)	International	796.0	9.6 (1955-69)	1,600.0	1,900.0	2,200.0	3,675.0	2,660.0	5,280.0	6.3	9.4	234.0	563.0
	Domestic	91.5	10.1 (1955-69)	356.0	356.0	750.0	750.0	1,050.0	1,050.0	12.2	12.2	1,053.0	1,053.0
	Total	887.5		1,956.0	2,256.0	2,950.0	4,425.0	3,710.0	6,330.0			318.0	613.0
rgo in housand kilos	International	25,348.0	11.9 (1961-69)	63,200.0	89,000.0	80,000.0	220,000.0	87,850.0	358,000.0	6.1	13.4	246.0	1,312.0
	Domestic	2,173.0	9.5 (1962-69)	5,700.0	9,350.0	7,400.0	15,150.0	8,400.0	23,200.0	6.2	11.4	286.0	967.0
	Total	27,521.0		68,900	93,350.0	87,400.0	235,150.0	96,250.0	381,200.0			249.0	1,285.0

11.2.2. Aircraft movement forecast

(a) Assumptions In order to establish the terminal facility requirements, the above forecasts in respect of passengers and cargo had to be translated in terms of aircraft movements**. This translation has been based on the following assumptions:

(1) International passengers:

- distribution between types of aircraft as follows:

Types of airplanes	Seats	Passengers in (%)			
		1970	1975	1980	1985
Wide bodied jets	290	0	10	20	40
Other jets	108	70	70	70	55
Non-jets	65	30	20	10	5

- rate of occupancy:

Types of airplanes	in %			
	1970	1975	1980	1985
Wide bodied	0	51	56	57
Other jets	52	51	56	57
Non-jets	52	51	56	57

** Aircraft movement - one departure and one arrival at an airport.

(2) In respect of cargo:

- 90% of international air cargo is shipped in 'all-cargo' airplanes;
- 10% aboard passenger aircraft as topping cargo;
- with larger capacity aircraft coming into use topping cargo volumes in 747 type will increase by 1985 to 20% and that in all-cargo airplanes will decrease to 80%;
- the percentage of freight in all-cargo planes will be distributed between the wide bodied and others as follows:

Types of aircraft	Cargo in %			
	1970	1975	1980	1985
Wide bodied	0	10	20	40
Others	100	90	50	60

rate of occupancy:

Types of aircraft	1970	1975	1980	1985
Wide bodied	0	60	63	68
Others	60	63	69	68

(3) In respect of other flights: Non-scheduled 10%
of scheduled
general aviation movements 15%

(b) Aircraft movement in 1985

On basis of above assumption aircraft movements were forecasted for 1975, 80, 85.

It emerges that total aircraft movement will increase by 2.6 times from 31,000 in 1970 to 82,000 in 1985.

Out of which passenger aircraft will account for 75% with 62,000 movements and cargo aircraft for 25% with 4,000 movements.

TABLE 76. PANAMA: TOCUMENT AIRPORT - AIRCRAFT MOVEMENT 1970-1985

Type	Movements				% of growth 1970-85
	1970	1975	1980	1985	
Total passenger aircraft	23,072	31,090	41,379	61,745	167
Total cargo aircraft	1,890	2,224	2,693	4,065	115
Total scheduled aircraft movement	24,962	33,314	44,072	65,810	163
Non-scheduled 10%	2,496	3,331	4,407	6,581	163
General aviation military 15%	3,745	4,997	6,611	9,871	163
Grand Total	31,203	41,642	55,090	82,262	163

11.2.3 The Physical Plan

Subsequent to the above study, alternative layouts for a physical plan have been drawn, analysed and compared before the final design emerged. However, today the final plan submitted by the Parsons Corporation is in initial stages of implementation.

According to the plan the existing airport is expanding across the opposite side of the Inter-American Highway due to the inavailability of sufficient land on the present site.

The consequent severance is overcome by sinking the highway by 6 metres below its present level and by bridging it over with a taxi-way bridge. This segregation would enable both functions to operate without infringing on one another.

The air-port is to include a total land area of 1000 ha, approximately out of which, the existing part will account for 655[1] ha. "
and the new part: ... 365 " "

The plan suggests the following improvements and changes for the existing site:

(a) Widening and expansion of the runway to a length of 2700 m. including the associated taxiways.

(b) Erection of new services buildings to cope with the requirements of a modern airport.

(c) Change in the function of the existing passenger terminal.[2]

The new part is to include:

(a) A runway of 3300 m.

(b) A new passenger terminal

(c) A new cargo terminal [3]

(d) Various modern buildings and services.

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(1) The present area of the existing airport is 720 ha. the plan suggests its reduction to 655 ha. in the light of the reduced function which this part is to retain in the future.

(2) The new function for the Existing Passenger Terminal is still under discussion. At the time it was suggested for a cargo processing centre together with the location of a new cargo building and an industrial free zone at its vicinity. But as the present study on the IFZITA has revealed the drawbacks of the site proposed by the Tocumen Airport Masterplan and concurrently has suggested a different site for both the IFZITA and the cargo terminal. The decision on the new function of the existing passenger building is adjourned until the IFZITA report is cleared by UNIDO and approved by the Government of Panama.

(3) This proposed location for the Cargo Terminal may also be changed for the reasons described in the preceding footnote. This is similarly awaiting the clearing of the IFZITA report.

11.3 Contribution to Panama's economy

The Tocumen Airport constitutes a third node of booming activity in the Metropolitan Area along with Colon Free Zone and the Canal Zone. Virtually these three are closely interdependent and interrelated in a cyclical type of relationship.

Tocumen Airport provides both the Canal Zone and the Colon Free Zone with a remarkable level of accessibility: with respect of cargo freight and business visitors and thereby enhances their operation. In turn, the Colon Free Zone and the Canal Zone provide for the major bulk (70%) of the airport activity in the cargo field.

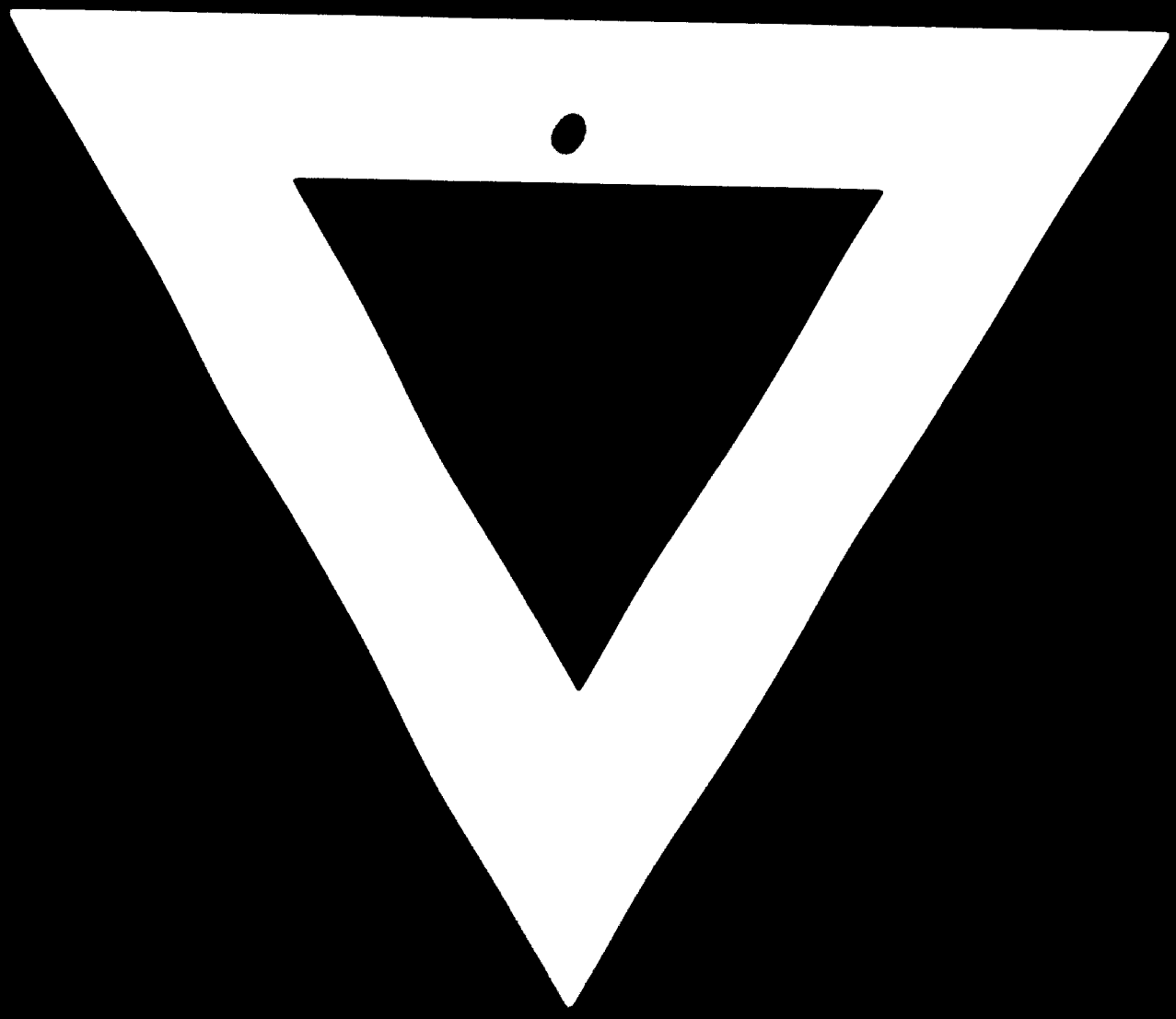
In addition the Tocumen Airport represents in the passenger field a node in its own right: its exceptional location on a global crossroad has made it a natural centre for transfer and distribution of passengers to airlines flying on South and North America and Far East routes.

By virtue of the above described functions, Tocumen generates both direct and indirect benefits on the Panamenian economy the impact of which ranges with those exerted by Colon and Canal Zones.

With the erection on the new airport and the expected growth in the volume of passengers (7 times) and of cargo (14 times) there is no doubt that the impact of the airport on the country's economy will further increase.

The establishment of an export-oriented Industrial Free Zone within the airport confines will create a new node of activity which will generate additional flows of cargo and passengers. This will place an additional new importance to the airport functions and accrue its potential repercussions.

In conclusion, the four elements - Colon Free Zone, the Canal Zone, the Tocumen Airport and the IFZITA are likely to create jointly a major growth pole in the Metropolitan Area capable of generating multiplyer effects on the country as a whole.



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