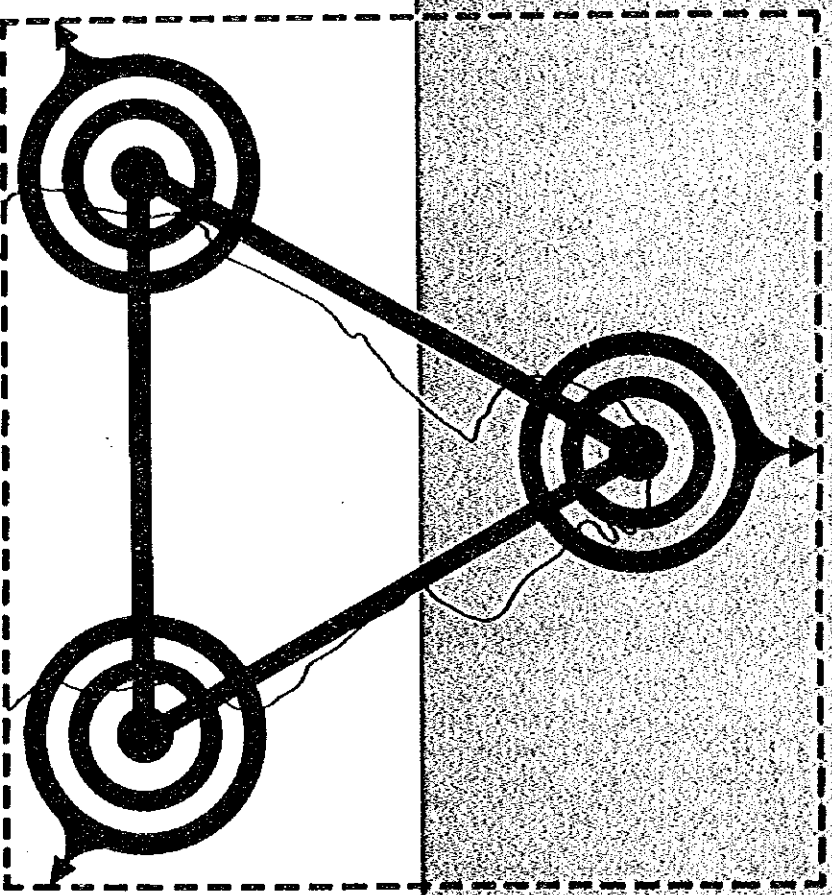


# STUDY ON THE DEVELOPMENT PLAN OF SUEZ BAY COASTAL AREA

SDF  
86-/4

IN THE ARAB REPUBLIC OF EGYPT





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**FINAL REPORT**

**STUDY ON  
THE DEVELOPMENT PLAN OF  
SUEZ BAY COASTAL AREA  
IN THE ARAB REPUBLIC OF EGYPT**

**JULY 1986**

**VOL. I MAIN REPORT**

国際協力事業団	
受入 月日 '86. 8 20	405
登録 No. 15192	728
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## PREFACE

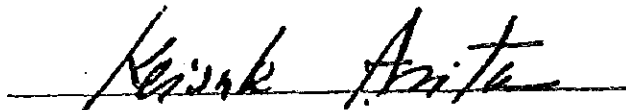
In response to the request of the Government of the Arab Republic of Egypt, the Japanese Government decided to conduct a study on the Development Plan of Suez Bay Coastal Area Project and entrusted the study to the Japan International Cooperation Agency. J.I.C.A. sent to Egypt a study team headed by Mr. Tamotsu Okabe, President of the Overseas Coastal Area Development Institute of Japan from June to August, 1985.

The team had discussions on the project with the officials concerned of the Government of Egypt and conducted a field survey. After the team returned to Japan, further studies were made and the present report has been prepared.

I hope that this report will serve for the development of the Project and contribute to the promotion of friendly relations between our two countries.

I wish to express my deep appreciation to the officials concerned of the Government of the Arab Republic of Egypt for their close cooperation extended to the team.

July, 1986

A handwritten signature in black ink, reading "Keisuke Arita", is written over a horizontal line.

Keisuke Arita

President

Japan International Cooperation Agency





LETTER OF TRANSMITTAL

July, 1986

Mr. Keisuke Arita  
President  
Japan International Cooperation Agency

Dear Mr. Arita:

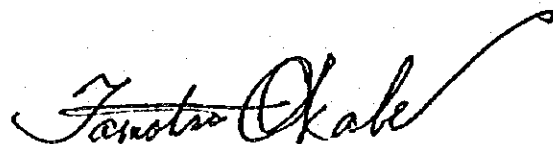
I have the honor to submit herewith the final report of the Study on the Development Plan of Suez Bay Coastal Area in the Arab Republic of Egypt.

The Japanese Study Team, headed by myself, conducted a survey on the Plan in the Arab Republic of Egypt for 28 days in March and again 69 days from June 3, 1985, at the request of the Japan International Cooperation Agency. The findings of the survey were discussed to make the Master Plan and to study the feasibility of the Short-term Development Project which comprises a port, an industrial estate, an industrial free zone and related utilities in the Ataq-Adabiya Area, and were then compiled into the report. The study shows that the Project is extremely important, so I hope the project is executed as soon as possible.

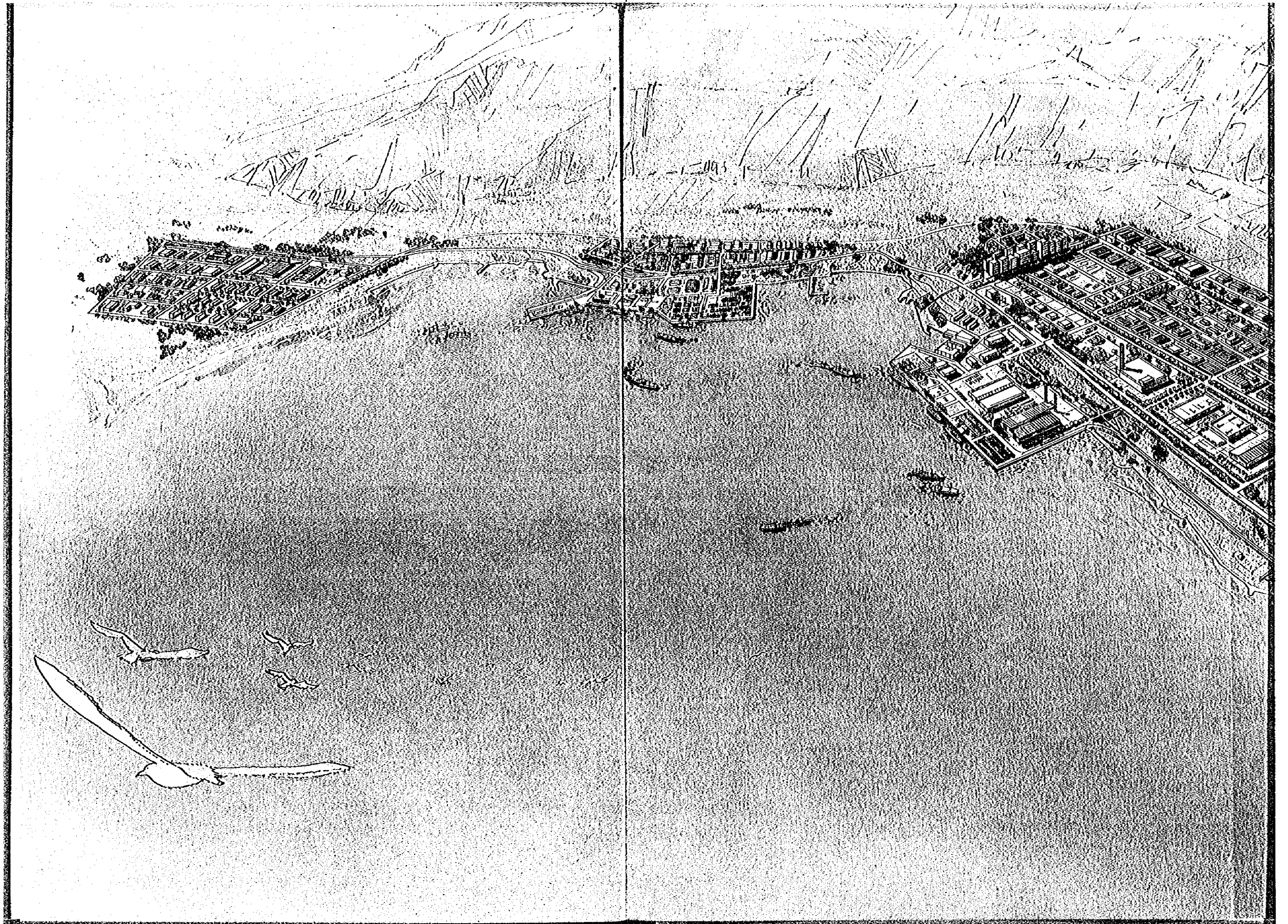
On behalf of the Japanese study team and myself, I would like to express my deepest appreciation to the government of the Arab Republic of Egypt and to the various organizations concerned with the Plan for the unlimited cooperation and assistance, and the warm hospitality they extended to the team during our stay in Egypt.

I am also greatly indebted to the Japanese Advisory Committee, the Japan International Cooperation Agency, the Ministry of Transport, the Ministry of Construction, the Ministry of International Trade and Industry, the Ministry of Foreign Affairs, the Japanese Embassy and the JICA office in Cairo for giving us valuable suggestions and assistance during the field survey and the preparation of this report.

Respectfully,



Tamotsu Okabe  
Head  
Japanese Study Team for the  
Development of Suez Bay Coastal Area  
(President, the Overseas Coastal Area  
Development Institute of Japan)









## CURRENCY EQUIVALENTS

(As of Jan. 1986)

Currency Unit	Egyptian Pound (L.E.)
\$1.00	L.E. 1.35
L.E. 1.00	\$0.74074

## ABBREVIATIONS

### Egyptian Government

A.R.E	the Arab Republic of Egypt
MODANC	Ministry of Development, New Communities and Land Reclamation
MOI	Ministry of Industry
MOTC	Ministry of Transport and Communication
MOP	Ministry of Planning
MOSHT	Ministry of Supply and Home Trade
MOIR	Ministry of Irrigation
MOT	Ministry of Tourism
SCA	Suez Canal Authority
CAPMAS	Central Agency for Mobilization and Statistics
GOFI	General Organization for Industries
SBDA	Suez Bay Coastal Area Development Authority

### Japanese Government

MOT	Ministry of Transport
MOC	Ministry of Construction
MITI	Ministry of International Trade and Industry

### Organizations

JICA	the Japan International Cooperation Agency
OCDI	the Overseas Coastal Area Development Institute of Japan
NK	Nippon Koei Co., Ltd.
ILC	Japan Industrial Location Center
RPI	Regional Planning International Co.
MRI	Mitsubishi Research Institute
YE	Yachiyo Engineering Co., Ltd.

### Others

M.L.W.S.	Mean Low Water Level at Spring Tides
DPPS	Development Policy Ports of Egypt Study -- F.R. HARRIS INC.
ENTS	Egypt's National Transport Study -- NEDECO
NPFT	National Plan of Foreign Trade -- Egyptian Government
W/R	Working Ratio
O/R	Operating Ratio
ROA	Return on Net Fixed Assets
DSR	Debt Service Ratio

# Project Focus, Design and Rationale

The "Open Door Policy" combined with a surge in foreign exchange receipts from petroleum exports, workers' remittance, Suez Canal receipts and development aid has resulted in high economic growth in Egypt, and the GDP reached L.E. 26.5 billion in 1985 (at 1981/82 prices). The GDP is expected to grow at a rate of 7% per annum to reach L.E. 104.3 billion in 2005, and to achieve such rapid growth, the industrial sector will have to expand at a growth rate of 8.8% per annum, since the growth of the agricultural sector will be limited due to the limited arable land and water supply and also because foreign exchange earnings from the oil sector may eventually decrease considering the limited reserves of oil and gas and the probable future increase in domestic consumption of petroleum products. The population of Egypt is expected to reach 75.5 million in 2005. Over the last several years, the Government of Egypt has made an effort to reconstruct the Suez region, and the Suez is expected to recover its prewar socio-economic level by the end of the current five year plan. The Suez Bay Coastal Area is endowed with a high development potential for industrial towns with adequate port facilities and appropriate recreational sites. Thus, the Suez is expected to once again become the third growth pole of the nation, and to make a major contribution toward the industrialization and decentralization of Egypt.

The main objective of the projects in the Master Plan is to provide necessary infrastructures to attract industry and population to the Study Area. The development will create job opportunities, and 900 thousand people are expected to settle in the area by the year 2005. Specifically, the projects will provide adequate port facilities, industrial estates, free zones and urban facilities as well as facilities for tourism and recreation.

The proposed plan includes the following components: (i) a commercial port, industrial estates, industrial free zones, a fishery port and new towns at the Ataq-Adabiya area, (ii) industrial and commercial ports, industrial estates, newtowns and tourism spots with a marina at Ain Sukhna- El Sadat area, (iii) tourism spots with a marina, domestic commercial port, an industrial estate and a new town at Ras Sudr-Ayun Musa area and (iv) related utilities such as water supply and sewerage systems as well as a transport system connecting these areas.

The short-term development plan concentrates on the Ataq-Adabiya area. The main objective of the short-term projects (herein-after the Project) is to provide an adequate capacity for the Suez ports to handle the projected traffic demand until 1995. Another objective of the Project is to provide adequate industrial estates and free zones for the introduction of both domestic and foreign industries.

The proposed Project, therefore, includes the following main components: (i) development of 2 multipurpose berths which will mainly serve container ships using ship's gear at Adabiya; (ii) construction of 1 grain berth with 70,000 tons silos, 1 coal berth, 2 bulk cargo berths and a fishery port at Ataq; (iii) addition of a 10.3 km long 7.5 m wide carriageway in the road section between Suez and Adabiya, and provision of 2-lane roads 8.9 km in length in the industrial zone in Ataq and 2-lane roads 2.2 km in length in the Adabiya free zone and port; (iv) restoration of the 8.5 km long track between Suez and Ataq port including a branch line and shunting yards for train composition in Ataq Port; (v) establishment of an industrial estate of 400 ha in Ataq with a center building, related utilities and roads; (vi) establishment of an industrial free zone of 82 ha in Adabiya with a center building, related utilities and roads; (vii) construction of a water treatment plant with a capacity of 88,000 m<sup>3</sup>/day 3.0 km north of the existing plant, together with the expansion of the existing Suez treatment plant by 21,100 m<sup>3</sup>/day, and installation of a water transmission main 23.1 km in length from the treatment plant to the Ataq-Adabiya area and of a water distribution system in the Ataq-Adabiya area; (viii) construction of sewage treatment plant with a total capacity of 50,200 m<sup>3</sup>/day for the Ataq industrial estate and of a similar plant for the Adabiya industrial free zone with a capacity of 3,300 m<sup>3</sup>/day, and installation of necessary sewers in Ataq-Adabiya area; and (ix) construction of two primary electric power substations with two 220/600 KV trans-

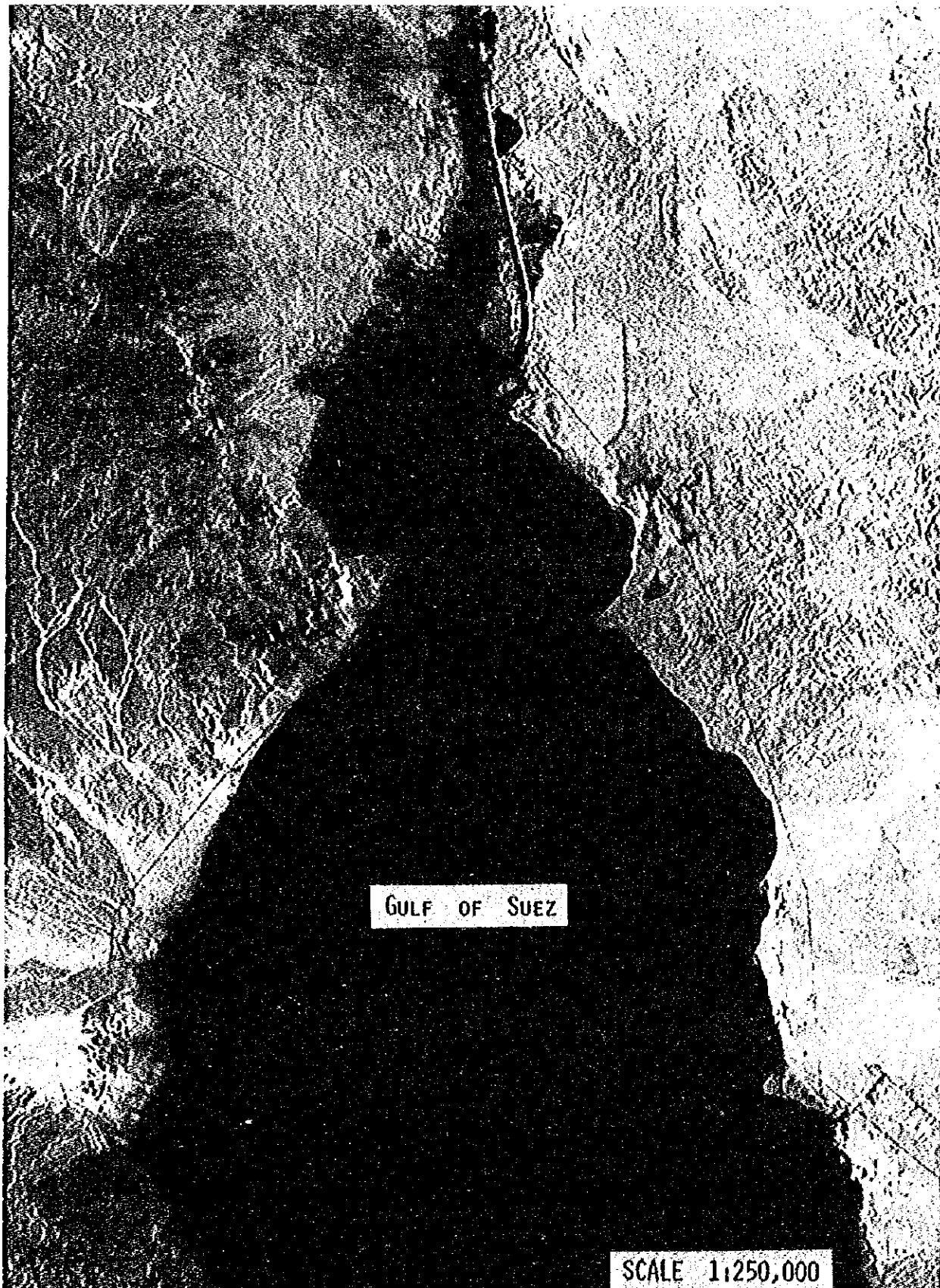
formers with a capacity of 70 MVA each and three 66/11 KV transformers with a total capacity of 81 MVA.

The cost of the Project is estimated at L.E. 375 million of which L.E. 233.5 million will be the foreign currency portion (excluding interest) and L.E. 141.5 million the local currency portion. The local currency portion is to be met from the government's own resources.

The Project will result in significant economic benefits. The development of Ataq-Adabiya Port will reduce the berth waiting cost of ships and the inland transportation cost of goods, and hence, it will increase the locational advantages for industries. Development of industrial estate and industrial free zones will increase job opportunities. The new estate and zones will attract population and industry, and thus promote the decentralization of population and industry away from crowded regions. The zones and estates will attract both domestic and foreign investment, and the industries which locate in these areas will improve the balance of trade by producing export goods and goods which will substitute for imports.

The economic internal rate of return for the Project is estimated at 13.6 percent and the financial internal rate of return at 3.3 percent. Therefore, the Project is viable. Since a detailed study on the feasibility of industrial location itself has yet been executed, the main risk is that the proposed industries might not locate in the Study Area. For the success of the Project, it is therefore important that the Plan be executed in its entirety so that the high quality infrastructures, combined with tax holidays and other incentives effectively draw industries to the Study Area.





GULF OF SUEZ

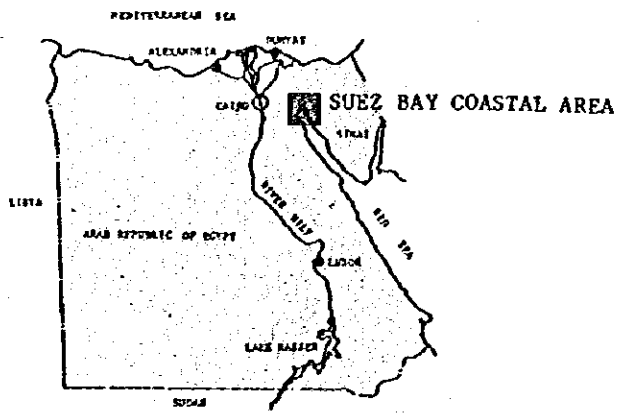
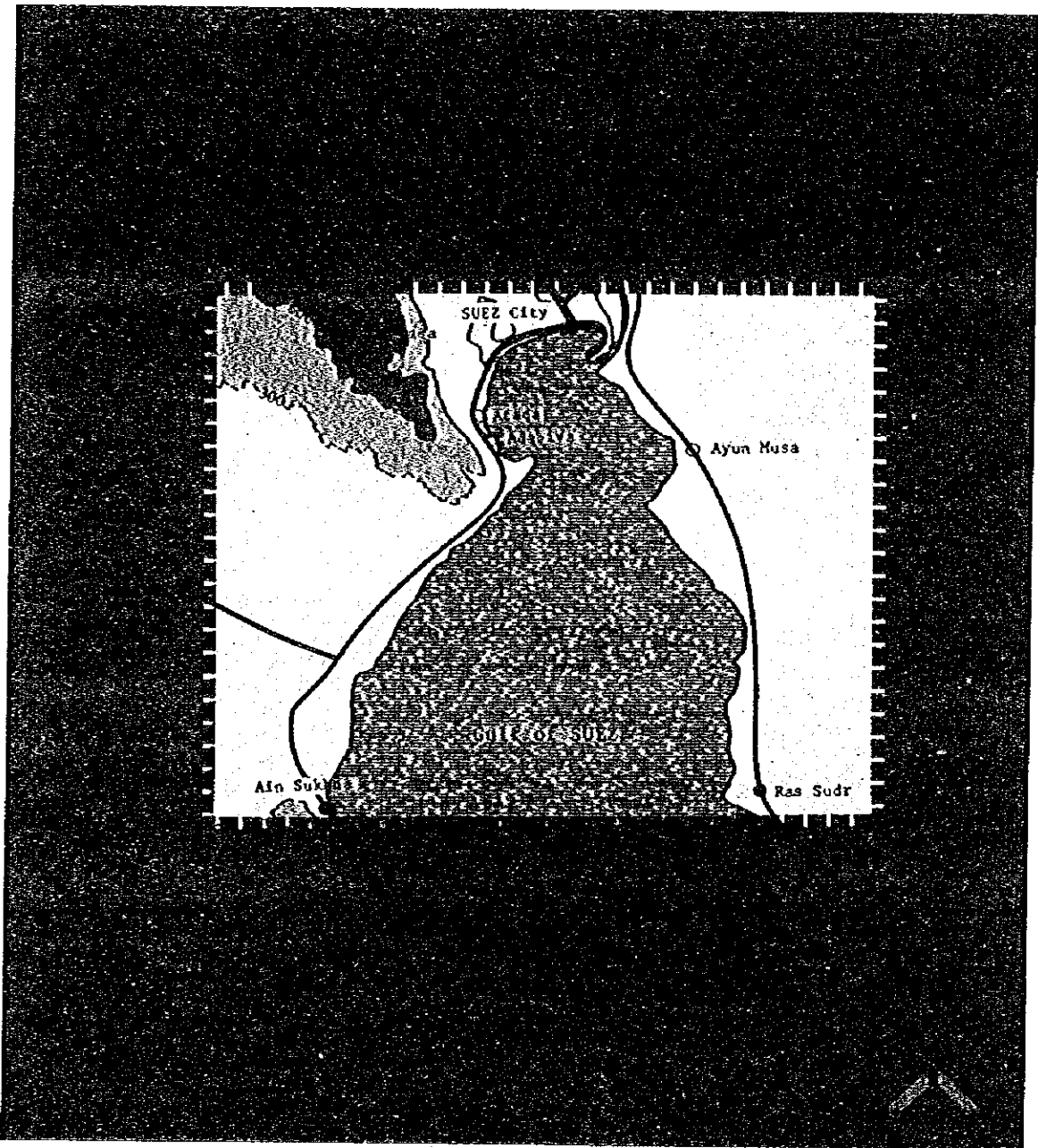
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# I. Introduction

1. In response to a request made by the Government of the Arab Republic of Egypt, the Government of Japan has decided to conduct a Study on the Development Plan of the Suez Bay Coastal Area in the Arab Republic of Egypt.
2. The Study objectives are as follows; (i) to formulate a framework for the development of the Suez Bay Coastal Area including sea use with a target year of 2005; (ii) to prepare a long-term development plan (plan of infrastructures and land and sea use plan) for some selected strategic areas of development and to formulate the first stage detailed land use plan; (iii) to conduct a feasibility study for certain high priority projects selected from the first stage detailed land use plan.
3. In order to achieve the objectives mentioned above, the Japan International Cooperation Agency (JICA) consigned the Study to a joint venture which consists of the Overseas Coastal Area Development Institute of Japan (OCDI), Nippon Koei Co., Ltd. (NK), Japan Industrial Location Center (ILC), Regional Planning International Co., (RPI), Mitsubishi Research Institute (MRI) and Yachio Engineering Co., Ltd. (YE).
4. Actual Study work commenced in March 1985 with the arrival of the Study Team in Egypt. Since then, the study was carried out both in Egypt and in Japan including five months of field surveys in Egypt.
5. In the course of the Study, the Inception Report, the Progress Report, the Interim Report and the Draft Final Report were submitted to A.R.E.. In addition to formal presentations, informal sessions of working groups involving A.R.E. official and various adhoc discussion took place. Comments were given by the Egyptian Steering Committee and by other related organizations. This final report incorporates the results of all these surveys and discussions.
6. This Report consists of four volumes: the Main Report which presents the general framework and a summary and conclusion for all the volumes (Vol. I), Volume II which presents the Master Plan, Volume III which presents the Short-term Development Plan and its feasibility study, and Volume IV which comprises technical appendixes.
7. Lists of counterpart members and related personnels are as follows:

EGYPTIAN STEERING COMMITTEE		JAPANESE ADVISORY COMMITTEE	
Dr. Osman Badran (Chairman)	MODANC	Dr. Yoshimi Nagao (Chairman)	Kyoto Univ.
Eng. Mohsen Idris	MODANC	Mr. Tomoyoshi Watanabe	MOT
Eng. Mohamed Abdel Fatah Mohsen	MODANC	Mr. Takayuki Kaneda	MOC
Dr. Aly Abou Zaid	MODANC	Mr. Shinya Wakimoto	MITI
Eng. Abdel Rahman El Akaad	MODANC		
Eng. Shirbini El Doussouki	MODANC	STUDY TEAM	
Dr. Younis A. Omar	MODANC	Mr. Tamotsu Okabe (Leader)	OCDI
Eng. Hassan El Hysum	MODANC	Mr. Keiichi Terada	NK
Arch. Galal Miligi	MODANC	Mr. Kunihiro Iwata	OCDI
Arch. Mohmoyd El Sharkawi	MODANC	Mr. Hidihiko Kuroda	OCDI
Eng. Hosny Abdel Gelil	SCA	Mr. Masahiro Yokogawa	OCDI
Eng. Ahmed Amin Ibrahim	MOI	Mr. Eiji Nishita	RPI
Eng. Mohamed Rafik Khaled Hamdi	MOI	Mr. Seiichi Aoki	ILC
Eng. Ibrahim Sharkas	MOI	Mr. Kouichi Kaneko	RPI
Eng. Mohsen Wagih Tawfik	MOTC	Dr. Nobuharu Miyatake	MRI
Eng. Tawfik El Mabrouki	CAPMAS	Dr. Taro Ochiai	MRI
Dr. Fathi El Hussini Kahfil	MOP	Dr. Masaharu Fukuyama	MRI
Eng. Magdi Abdel Gwad	MOSHT	Mr. Masatoshi Akagawa	NK
Eng. Youssef El Azeb Sakr	MOIR	Mr. Isamu Asakura	NK
Eng. Samir Aziz Ghaffi	MOT	Mr. Michihito Izu	YE
		Mr. Naoyuki Teshima	OCDI
		Mr. Fumihiko Masuda	OCDI
		Mr. Kenji Iwahashi	OCDI
		Mr. Eiji Tomida	JICA

## II. Background

### A. National and Regional Setting

8. Since the 1952 revolution, direct and indirect government intervention has affected almost every aspect of the socio-economy in Egypt. In October 1973, however, the Government changed its economic policy to a so-called "Open Door Policy", and combined with an increase in foreign exchange receipts from petroleum exports, workers' remittances, Suez Canal receipts and development aid, the policy has resulted in high economic growth.

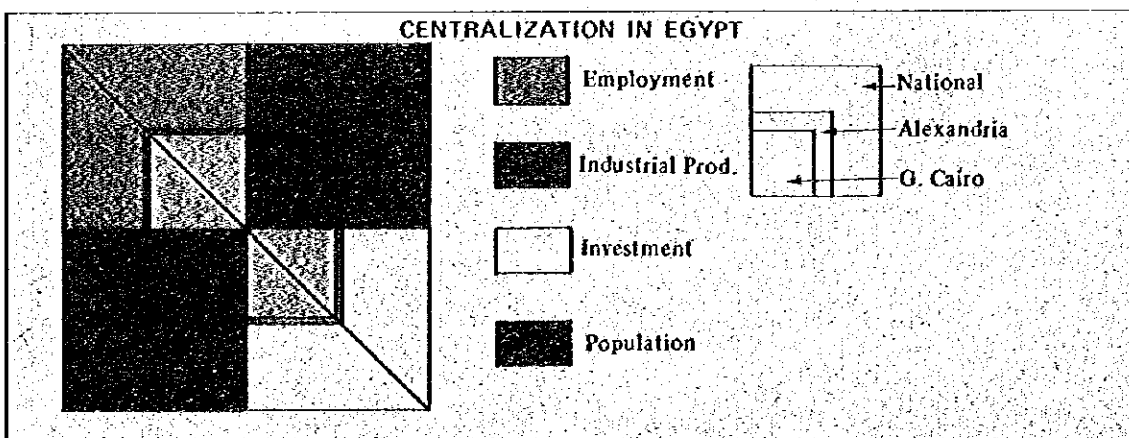
9. The GDP reached L.E. 26.5 billion (at constant 1981/82 prices) in 1985, and the population of Egypt is estimated to be 48 million in that year. However, the rapid economic growth and population increase since 1974 have caused various problems such as a high rate of inflation, a large deficit in the balance of payments, imbalanced growth between the agricultural and service sectors, and excessive centralization in major metropolitan areas.

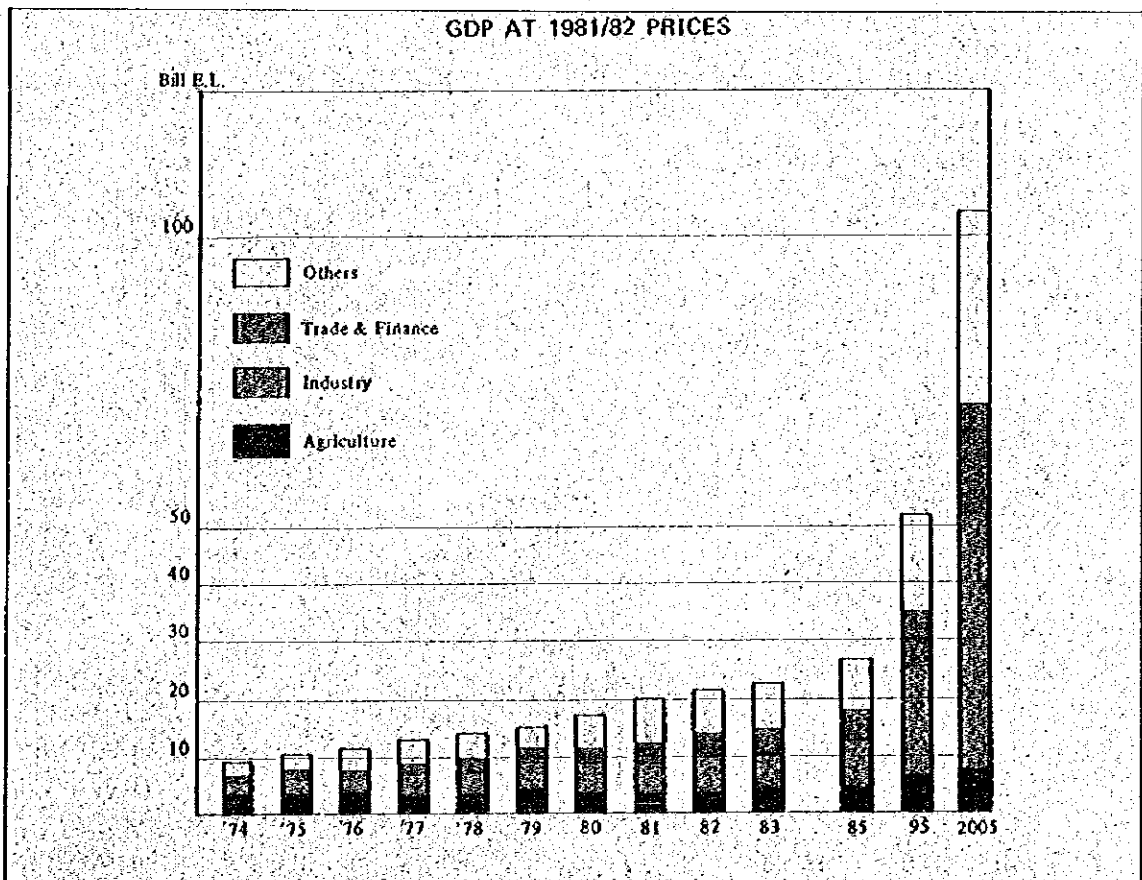
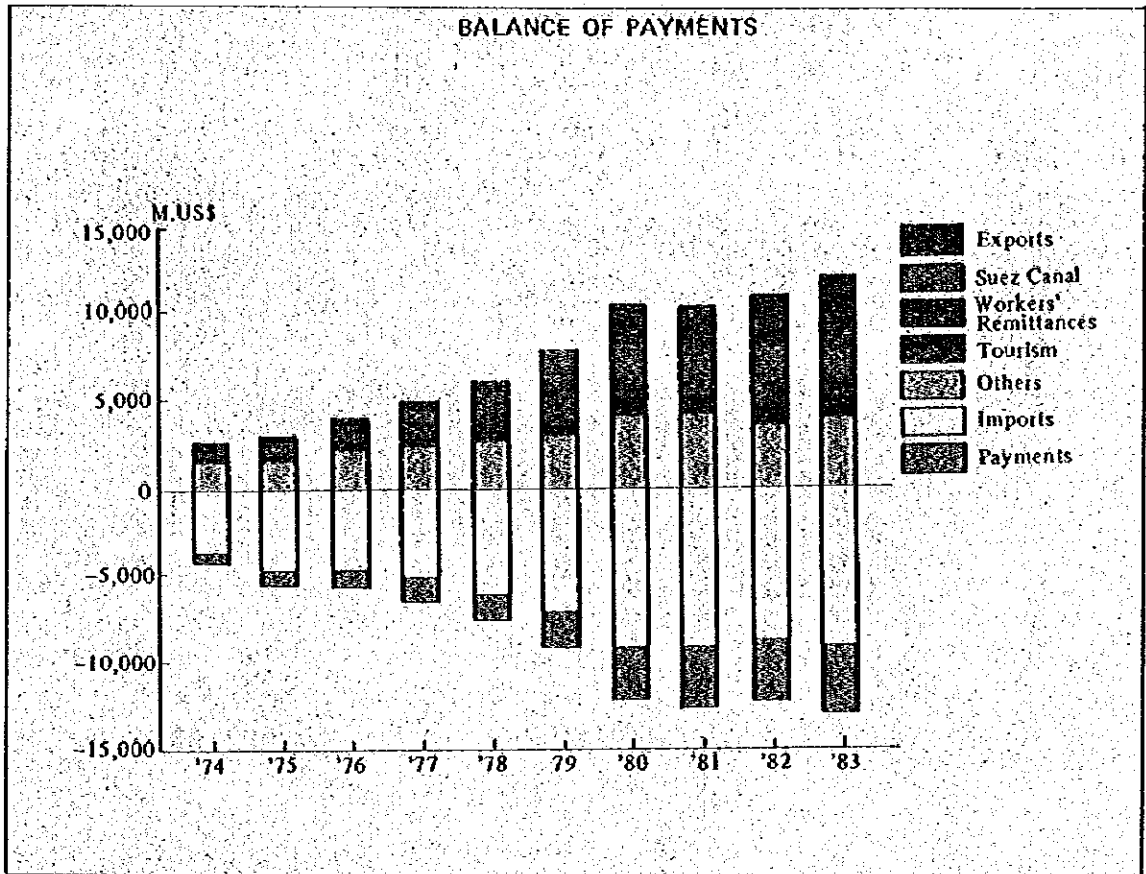
10. In order to maintain high economic growth and to improve the quality of life of the Egyptian people considering the expected annual population growth rate of 2.3% which will result in a population of 75.5 million in 2005, the industrial sector will have to expand at a growth rate of 8.8% per annum, since the growth of the agricultural sector will be limited due to the limitation on arable land and water supply, and foreign exchange earnings from the oil sector may eventually decrease considering the limited reserves of oil and gas and the probable future increase in the domestic consumption of petroleum products.

11. Under these circumstances, the Government has been trying to decentralize population and industry away from the Cairo and Alexandria metropolitan regions by establishing industrialized new towns in desert areas.

12. Suez City was the third main growth pole, that is the third largest metropolitan area, in Egypt until 1967, and almost 1% of the national population was concentrated in Suez City. However, after the 1967 war, the City lost population. During the long period of hostilities, a great number of people migrated away from the region, and many factories were relocated to the Cairo and Alexandria areas.

13. Over the last several years, the Government has made an effort to reconstruct the Suez Region, and the Suez is expected to recover its prewar socioeconomic level by the end of the current Five Year Plan. Thus the Suez is expected to once again become the third growth pole of the nation, and to make a major contribution toward the industrialization and decentralization of Egypt.





## B. Study Area

14. The total surface of the Study Area exceeds 2,000 km<sup>2</sup> of which approximately 40% is the sea, 15% is mountainous, 2% is developed urban and the rest is either non-urban or areas which will remain undeveloped. The physical character of the area is diverse with mountains, plains, coastlines, sea and desert. In 1966, the population in the Suez Governorate reached 264,100 with an annual increase rate of 4.8% since 1947, influenced by the rapid development of heavy industry. Though almost all the population evacuated during the long period of hostilities from 1967 to 1973, the population growth rate recovered to 3% during the period 1976 – 1985, and the population is estimated to be 249,000 in 1985. The main industrial activities are the port functions at Port Ibrahim and Adabiya, Suez Canal Authority activity, oil refining, fertilizer production, textile fabrication, glass production, cement production and fishing. There are mineral deposits in the Study Area, principally limestone, dolomite and clay.

15. Administratively, the portion of the Study Area on the west bank of Suez Bay, and some of the part on the east bank lie within Suez Governorate, and the remaining section on the east bank is within Sinai Governorate. Nationally and regionally, Suez plays a significant role. It is normally the nation's main gate way for trade with Red Sea Countries, East Africa, the Arabian Gulf and the Far East. Regionally, the salient feature of Suez which distinguish it from Port Said and Ismailia is the development of heavy industries.

16. The principal infrastructures of the Study Area comprise the Suez Canal, the Sweet-water Canal, the highways leading to Cairo, Ismailia, Ain Sukhna and Ras Sudr, the Ahmed Hamdi Tunnel, the railways to Cairo, Ismailia and El Sadat and the ports of Port Ibrahim and Adahiya. In addition there are the local urban infrastructures, the oil pipeline from Ain Sukhna (connecting SUMED Base to Cairo and Alexandria), a section of the national power grid (220 KV), telephone lines from Cairo to Suez and the Suez power station with 117 MW of installed capacity and the Ataq Power Station with a 300 MW capacity.

## C. The Macro Framework of the Study Area

17. Quantitative economic forecasts based on regression analysis of past data may not be accurate for very long range forecasts like those required in this study. Thus, the most effective path is searched to achieve the probable maximum growth considering realistic constraints.

18. In 2005, the population is forecast to reach 900,000, which will be 1.2% of the national population. Employment is forecast to reach 360,000, 37% of which will be in the industrial sector. Consequently the share of employment in the industrial sector will remain the same as at present, while the shares for construction, transportation and commerce & finance sectors will eventually increase by 2% to 6%.

19. The Gross Regional Product (GRP) of the Suez Region will be L.E. 2,721 million (at 1981/82 prices), which will comprise 2.6% of the GDP. The share of the industrial sector in the GRP will increase from 54% in 1985 to 65% in 2005. Thus, the Suez Bay Coastal Area will become a highly industrialized area.

