

## 参 考 资 料



## 参考資料

資料1 青山調査団「スエズ運河庁計画部門に対する調査報告」 (527) 抄録

資料2 JICA「エジプト・アラブ共和国スエズ運河庁計画研究部門に対する技術協力を実施するための説明書」 (536)

資料3 SCOPE OF WORK

3-1 'Technical Cooperation Program to Planning and Research Department, SCA. (June, 1978)

3-2 'The Second Year Technical Cooperation Program to the Planning and Research Department, SCA. (March, 1979)

資料4 JICA「エジプト・アラブ共和国スエズ運河経営システム設計計画調査に係わる作業監理委員会設置要綱」 (1978.6)

資料5 「エジプト・スエズ運河経営システム設計計画調査業務(第1年次)実施契約仕様書」 (537.1)

資料6 参考書籍

資料7 SCAと調査団との交換文書

7-(1) (R-2) 'Similar Organizations in Japan,

7-(2) (R-5) 'A Supplement to an Inception Report on the Technical Cooperation Program to the Economic Planning Unit, SCA,

7-(3) (M-2) 'Memorandum on Qualifications of Trainees,

7-(4) (M-3) 'Memorandum,

7-(5) (M-5) 'A Memorandum on an Inception Report on the Technical Cooperation Program to the Economic Unit, SCA,

- 7 - (6) (M-6, Appendix II) 'A List of Data, Reports and other Materials.
- 7 - (7) (M-6, Appendix III) 'Requests Made to SCA.
- 7 - (8) (M-6, Appendix IV) 'Assignments for Self Training Program.
- 7 - (9) (M-7) 'A Memorandum Exchanged Between Dr. Ammar and Mr. Sato on September 29th, 1978.
- 7 - 00 (M-8) 'A Memorandum Exchanged Between Dr. Ammar and Mr. Sato on November 25th, 1978.
- 7 - (11) (M-9) 'Assignments and Instructions to the Economic Unit for the Job Initialization.
- 7 - (12) (M-10) 'A Memorandum Exchanged Between Dr. Ammar and Mr. Sato on February 21st, 1979.

1 総 論

1 調査団の目的

スエズ運河庁研究所では、運河庁が現在実施中のスエズ運河の拡張にともなう技術上の諸問題の研究を実施しているが、水工部門および土質部門の強化のため専門家の派遣を要請している。さらに運河庁では今後の運河拡張計画のフィジビリティ・スタディならびに運河通航料に関する基礎資料の作成等、運河庁の経営計画を立案するための指導を要請している。

以上の要請はきわめて広範囲にわたるため、中近東アフリカ技術協力計画によりスエズ運河庁に本調査団を派遣し、エジプト国側の要請内容を具体的に整理し、我が国が協力する分野および協力の方法を明らかにするものである。

2 調査団の構成

団 長 ( 総 括 )	第一港湾建設局長	青 山 正 幸
団 員 ( 土質担当 )	港湾技術研究所土質部長	松 並 仁 茂
〃 ( 水工 〃 )	港湾技術研究所海洋水理部	
	波浪研究室長	合 田 良 実
〃 ( 計画 〃 )	( 財 ) 国際臨海開発研究センター	
	企画部 主任研究員	惣 谷 賢

3 調査日程

昭和52年7月11日～7月24日

別紙業務日誌の通り(略)

## V 計画部門に対する技術協力

### 1 協力要請の背景

運河拡張計画のフィジビリティ・スタディ作成及び運河通航料の改訂のための基礎資料作成は運河庁の経営方針を確立する重要な要件である。しかしながら運河庁には従来から経済の専門家がおらず、計画部長 Dr. Ammar 始め、極く少数の研究スタッフが片手間に行なっている実情である。時々刻々変動する世界の情勢に追従できるようなシステムの採用が重要かつ緊急の課題である。在米、フィジビリティ・スタディは日本、イギリス等に依頼して実施してきたが、計画の重要性から新たに Economic Section の設立が計画されるに至ったものである。当面は、新しくエジプト国内でエコノミストを広く求め、発足する予定であるが、それら新しいスタッフに対する指導教育に対する協力を日本に求めようとするものである。

### 2 新設する Economic Section の業務内容および組織

- (1) 世界のエネルギー需要の動向を予測し、Crude Oil, LNG, LPG 等の輸送需要を求める。(価格、輸送費等の推定も含む。)
- (2) 世界商船の船腹量および船型の動向
- (3) Crude Oil 以外の世界貿易の動向の予測
- (4) コンテナ貨物及び在来貨物等の海運輸送コストの動向
- (5) スエズ運河の通航量の予測
- (6) スエズ開発計画のフィジビリティ・スタディ
- (7) データ・バンクの設立
  - (a) 運河通航船舶の交通量統計を船種別、貨物別、サイズ別等、必要なデータがすぐ得られるようにする。
  - (b) 運河に関する、すべてのデータを集め、整理し、コンピュータ処理し、必要なデータがすぐ得られるようにする。

新設する Economic Section は計画部に属し、担当は計画研究部副部長 Eng. Dessawy で以下の 6 人が、新聞広告によって応募しており採用の予定である。

性別	卒業年次	成績	職歴	適要
女性	1975年	good	エジプトの会社	Miss
男性	1975	good	なし	
#	1975	good	なし	
#	1976	good	なし	
女性	1975	good	イスマリア市勤務	Miss
#	1974	good	Reconstruction Institute 勤務	#

註 エジプトの大学の成績は Distinguish  
Very good の4段階に  
good わかれている。  
Fairly good

この6人のスタッフで出来れば52年8月から発足し、順次人数を増やしていく予定である。なお1年間は準備期間の予定。

なお、コンピューターは運河庁にあり機種は I. C. L 1902A である。

### 3 日本への協力要請内容

- (1) Economic Section の業務に関する石油需要予測、データバンクや輸送コスト等に関する General Information をもりこんだテキストブックを日本からまず送ってほしい。
- (2) 専門家が日本から運河庁に来て、スタッフの教育と種々の情報を与える。
- (3) 運河庁から日本に1~4名送り、教育を受ける。
- (4) 教育が終り、データバンクの設立がすんだら、あとは運河庁自から推進する。

なお、本件に関しては1975年ノルウェーに一度接しよくした他は日本以外の国の協力は求めている。

### 4 調査団の所感

運河庁にとって時々刻々と変動する世界経済に対応して運河拡張計画および Tariff を常に見なおし、世界の輸送需要にこたえていくため、エネルギー需給、世界貿易の動向、海運輸送コスト、世界の船腹、船型等船舶の動向などに関し、常に最新の情報をとらえ、これを分析していく部門が不可欠であることは我々にもよく理解できた。

しかも運河庁として、その部の設立は緊急を要するものであり、すでにスタッフの募集を始める等、非常によく努力していることも明らかである。

しかしながら、このような新しい研究を経験のないスタッフによって開始することは容易なことではなく、スタッフの教育、情報の集収等、相当な準備期間が必要であり、当初に初歩的なものから出発して徐々に程度の高いものに発展していく考え方が妥当だと思われる。

我が国からのこの新設部門に対しての具体的な協力の仕方については、日本に持ち帰り、日本政府において検討し、回報できるようにしたいと考えている。



### 3) 計画部門に対する技術協力

#### エジプト側の考え方

1. 発足し軌道にのるまでの指導協力を日本に頼み、軌道にのれば運河庁で運営していく。
2. 日本には運河のないことはよく承知しており、Waterway等、運河関連のものなら何んでも情報がほしい。理論的な勉強がしたい。
3. 最初、日本からのテキスト等により、あるレベル迄到達したら、もっとむずかしいテーマ取り組みたい。そのためには日本でたとえばデータバンクのシステムを見て、研修する必要がある。
4. データバンクのシステムとしては、システム設計とデータ収集の両方があるが、運河庁としてはその両方の手法が知りたい。
5. 通航量の予測、世界貿易の動行等の予測のためのデータ集収は大変な仕事量なので、最初はラフなモデルでスタートし、それを改良していくやり方で進めてもらってよい。

#### 日本側の対応の仕方に対する意見

1. 内容が広範囲でかつ高度であり、総合的な経済予測を常に手掛けている機関でないと対応できないし、運河庁の新しいスタッフは未経験者ばかりで弱体と思われるので強いテコ入れが必要。
2. 海運、港湾計画、経済、財務の専門知識を必要とするので単一でなく、複数の専門家を動員することになろう。
3. 上記に該当するコンサルタントとしては、野村総合研究所が一例である。但し、現地への専門家の派遣、ならびに研修員の受け入れについての野村総研の可能性は不明である。
4. テキストの作成は、既往の資料の活用のみでは対応できないので、かなりの労力を要すると考えている。
5. 本計画に対する協力は、エジプト側の強い要請もあり、運河経営に関するデータも得られるので日本側としても技術的興味のもてるプロジェクトである。
6. したがって、適当な受け皿を至急選定して協力することが必要と考えている。

エジプト・アラブ共和国 スエズ運河庁計画研究部門

に対する技術協力を実施するための

説 明 書

昭和 5 3 年 6 月 1 日

国際協力事業団

## 1 序

- 1-1 本調査は、エジプト・アラブ共和国 ( ARAB REPUBLIC OF EGYPT :略称 ARE ) スエズ運河庁 ( SUEZ CANAL AUTHORITY :略称 SCA ) に対して技術協力を行なうとの日本政府の決定にもとづき、国際協力事業団 ( JAPAN INTERNATIONAL COOPERATION AGENCY :略称 JICA ) が実施する協力内容の一部を構成するものである。

コンサルタントは、本説明書及び説明会において貸与された資料にもとづき、本調査に関するプロポーザルを事業団に提出するものとする。

- 1-2 SCAに対する技術協力の基本方針並びにその内容は次のとおりである。

### (1) 基本方針

- i) 当面3ヶ年間継続して行なう。
- ii) 各年度毎に、協力内容について両国政府間で協議の上決定する。

### (2) 技術協力内容

#### i) 組織業務調査

- ① SCA全体の業務調査
- ② SCA内に新設された“Economic Financial and Traffic Planning Unit” (以下Unitと略す)の業務の検討  
(業務項目、業務内容及び業務量)
- ③ Unitの組織についての提案  
(体制、要員の資格要件、他部門との関連等)
- ④ Unitの組織育成のための長期計画に対する提案  
(スタッフの育成と業務内容の充実等)

#### ii) システム分析

- ① 運河の開発、運営にかかる現況分析
- ② “ ” 予測システムの開発
- ③ “ ” 情報管理システムの開発

#### iii) 研修員の受け入れ

運河の開発、運営にかかわる現況分析、予測システム及び情報管理システムに関する手法について、SCA職員を受け入れ研修する。

#### iv) 専門家の派遣

在日研修の成果を現場で応用するため、現地にて研修を行なう。

- 1-3 本年度の協力内容並びにその工程等は、日本政府とエジプト国政府との間で合議されたS/Wにしたがって実施される。

なお、コンサルタントとの契約は、あくまで昭和53年度契約として、締結されるものであり、来年度以降の契約を何ら約束するものではない。

## II 組織業務調査について

2-1 本調査は、SCAに新設されたUnitの組織業務に関するものである。

2-2 Economic Financial and Traffic Planning Unitの機能は次のようなものが予想される。

- ① SCAの業務に関する経済、財政管理のデータの収集、公表、分析を行なうこと。
- ② 短期及び長期の通航量の予測を行なうこと。
- ③ 通航料改訂の影響分析を行なうこと。
- ④ 世界貿易、エネルギーの供給と需要、輸送方式及びその他の関連する経済発展に関するすべてのデータの収集及び分析を行なうこと。
- ⑤ 提案される開発プロジェクトの評価に参画すること。
- ⑥ 市場調査を行なうこと。
- ⑦ 費用と通航料を調査すること。
- ⑧ 海運、航行における科学技術の変化を調査すること。

2-3 本調査は、Unitが現在想定される上記の機能を果たすために必要な業務並びに組織について検討するものであり、以下のものを含む。

- ① 上記想定機能の妥当性、問題点、その他
- ② Unitの機構及び部門の業務内容、業務量
- ③ スタッフの員数、並びにキー・スタッフの資格要件
- ④ 業務、組織充実のための長期スケジュール

2-4 コンサルタントは、本調査に関し以下の内容を実施する。

- ① 日本国内のSCAに関する資料並びに日本国内の各種機関のUnitと同種の機能を有する部門の組織業務に関する資料を収集する。
- ② 現地調査を一定期間実施し、SCAの各部門の組織業務及びARE内、各政府機関に関し、事情聴取する。
- ③ 国内作業終了後、現地において中間報告書説明及び意見調整を行なう。
- ④ SCAとの意見調整にもとづき、所要の修正を行なった後、最終草案報告書について再度現地において説明及び意見調整を図る。
- ⑤ その結果にもとづき、最終報告書を提出する。提出期限は、おおむね1979年1月末を目途とする。

尚、本調査は同趣旨でAREが“METRA CONSULTING GROUP LIMITED”に委託しており、その最終報告が、本年7月に提出される予定である。

#### Ⅲ システム分析調査

3-1 本調査は、運河の開発、運営にかかわる計画、評価に資するための現況分析、予測システム及び情報管理システムを開発することを内容とする。

3-2 Unitのスタッフが、これらシステムを理解、操作及び自ら開発できるよう、研修を実施することとしているが（N参照）、本調査の結果は、そのテキストになるという性格をもっている。

3-3 本調査は、3年間継続することを予定しており、年度別計画は概ね次のとおりである。

- 1978年 ・ 既往モデル・レポートの整理と分析  
・ 輸送コスト分析、通航量予測の基礎的システム  
・ 情報管理の基礎的システム
- 1979年 ・ 主要な予測サブシステムの開発  
・ 情報管理システムの拡充
- 1980年 ・ 主要な予測サブシステムの高度化  
・ 運河計画トータル、システムの拡張  
・ 本格的情報管理システムの基礎

3-4 コンサルタントは本調査に関し、以下の内容を実施する。

- (1) 現地調査を一定期間実施し、SCAの保有している既往のレポート並びに資料を収集し、整理する。
- (2) 世界貿易、海運等の資料を入手するために、必要があれば、政米の必要な機関で調査する。
- (3) 3ヶ年にわたる全体のシステムの骨格を企画し、本年度開発すべき基礎的システムを企画する。
- (4) 後述、SCA職員の来日研修時に使用するテキストブックとして使用しうる中間報告書を作成する。
- (5) 最終報告書の提出期限は、概ね1979年1月末を目途とする。
- (6) 最終報告書は、1979年6～8月に予定される現地調査において、Unitのスタッフに対し、研修を兼ねて詳しく説明されるテキストを兼ねているので、構成、内容、表現に十分留意すること。

## N 来 日 研 修

- 4-1 1978～80年の各年10～12月の3ヶ月間、Unitの職員6～8名を研修員として受け入れる。(本年度は、6名である。)
- 4-2 研修の目的はUnitが2-2の機能を遂行する為に、必要な能力を付与することを目的とし、運河開発、運営にかかわる現況分析、予測システム、情報管理システムの手法を教授することにより、Unitの職員がスエズ運河の開発、運営のために開発されるシステムを理解、操作及び自ら開発できるよう、基礎的な技術を獲得することにある。なお、あくまで、実務的観点により研修を実施するものとする。
- 4-3 3ヶ年にわたる研修の年度計画は、次のとおりである。
- 1978年 ・基礎的なコンピューター・プログラム・ライティング  
・基礎的なシステム分析技術  
・基礎的な海運、交通計画論
- 1979年 ・分析並びに予測に関する一般的手法  
・分析並びに予測に関する高度な手法
- 4-4 研修の実施の方法は次のとおりである。
- (1) 12週にわたる研修をコンサルタント、京都大学等国立大関係者並びに港湾技術研究所の職員で実施する。
  - (2) その分担は、次のとおりである。(1978)
    - ・基礎的なコンピューター・プログラム・ライティング : 港湾技術研究所職員 約3週間
    - ・基礎的なシステム分析技術 : コンサルタント 約6週間
    - ・基礎的な海運、交通計画論 : 京都大学等国立大関係者 約3週間
  - (3) 研修の全体計画(1978～1980)をコンサルタントにおいて立案する。
  - (4) 研修の全体計画の作成にあたっては、Unitの職員の拡充を想定し、1979年以降においては、Key Staffの個別研修等、コースの増設を考慮して柔軟に対応できることが望ましい。
  - (5) 1978年度のカリキュラムを作成する。この場合、他の研修担当者の講義との調整を行なうこと。
  - (6) 港湾技術研究所、京都大学等で研修を行う際にコンサルタントは、研修補助を行なう。
  - (7) 研修場所としては、JICAの東京市谷、金沢文庫、神戸の研修センターを利用することを検討中である。

- (8) 各年度の研修の終了にあたり、次年度以降の研修実施に際して必要な研修の評価、スタッフの資質に関する問題点等についてレポートを提出する。

#### V 専門家の派遣

- 5-1 1978～80の各年の6～8月の3ヶ月間、SCAに於てUnitの職員を対象に現地研修を実施する。
- 5-2 研修の目的は、運河開発、運営にかかわる現況分析、予測システム、情報管理システムをスエズ運河の実状にそって応用を可能とするよう基礎的応用力を養うものである。
- 5-3 専門家として京都大学等、国立大学関係等を若干名、派遣する。
- 5-4 この専門家派遣期間中、コンサルタントは現地調査をかねて一定期間、現地において前年度の調査結果を報告することを想定する。

#### VI その他

- 6-1 上記I～IVは、互いに密接に関連しているのでコンサルタントは、相互の関連を十分配慮した総合的な企画が必要である。
- 6-2 JICAに本調査の作業管理委員会を設置するので、その指導に従う。
- 6-3 上記作業管理委員会の他に、コンサルタントは、学歴経験者よりなる委員会を設置し、これらの意見を勘案して作業をすすめることとする。

#### VII 報告書

コンサルタントは、以下の報告書を作成するものとする。

##### 1. 組織業務調査

- |           |      |       |
|-----------|------|-------|
| ① 中間報告書   | 50部  | (英文)  |
| ② 最終草案報告書 | 50部  | (英文)  |
| ③ 最終報告書   | 100部 | (英文)  |
|           | 50部  | (日本文) |

##### 2. システム分析調査

- |         |      |       |                                     |
|---------|------|-------|-------------------------------------|
| ① 中間報告書 | 30部  | (英文)  | SCA職員の来日研修前に、テキストとして使用できる内容を取りまとめる。 |
| ② 最終報告書 | 100部 | (英文)  |                                     |
|         | 50部  | (日本文) |                                     |

## Ⅵ プロポーザルの内容

コンサルタントの提出するプロポーザルの内容は、次のとおりである。

- ① Ⅰ～Ⅴに示した説明内容に沿った本調査の実施方針、実施内容（可能な限り、具体的かつ詳細に）及び調査スケジュール
- ② 本調査に参加可能な専門家（別添様式のとおり）
- ③ 概算見積書（参考）

但し、見積書は、審査対象としない。

## Ⅶ プロポーザルの提出期限

- ① 提出締切日

調査概要説明日より10日以内とする。



資料 3(1)

**SCOPE OF WORK**  
**TECHNICAL COOPERATION PROGRAM**  
**TO**  
**PLANNING AND RESEARCH DEPARTMENT,**  
**SUEZ CANAL AUTHORITY**

**June 1978**

## 1. INTRODUCTION

In response to the request of the Government of the Arab Republic of Egypt, the Government of Japan has decided to undertake technical cooperation to the Planning and Research Department (hereinafter referred to as "Department"), the Suez Canal Authority (hereinafter referred to as "SCA"), in accordance with laws and regulations in force in Japan. The Japan International Cooperation Agency (hereinafter referred to as "JICA"), the official agency responsible for the implementation of technical cooperation programs of the Government of Japan, will carry out the cooperation.

The objective of the cooperation is to cooperate in establishing methods of system analysis for rational management and development planning of Suez Canal. The cooperation is also aimed at the transfer of technical knowledge to staff of SCA.

The periods of three years will be needed for the accomplishment of the total plan of this cooperation, and this document sets forth the scope of the work of the first year-cooperation. Both Governments will discuss on the matters and methods of the further cooperation, considering the results of the first year-cooperation.

## 2. PROGRAM

The following program will be executed in the first year.

- (1) Study of the organization and function of "Economic Unit", - the section newly established in Department.
- (2) Study of analysis and forecast technique for management and development planning of the Canal.
  - a) To review the basic theory and practical application of analysis and forecast technique which are widely used in general system analysis.
  - b) To develop basic approach to system analysis on some subjects among those which are most useful for the activities of Department.
  - c) To propose the framework of the total system analysis with recommendation of further studies on important matters.
- (3) Study of information system and necessary techniques for Department.
- (4) Training to the staff of "Economic Unit".

## SCHEDULE

### a) SCHEDULE ON (1), (2) and (3)

JICA will dispatch the mission for those studies in July, 1978 to SCA. JICA will submit and explain the report to the Government of Egypt within 8 months after completing the field work in Egypt.

### b) SCHEDULE ON (4)

The Government of Egypt is requested to submit the official application to JICA through the diplomatic channel, until August, 1978. JICA is ready to accept up to 6 staff in accordance with the above-mentioned application. Training of staff in Japan will be executed for 3 months, from October to December, 1978.

### c) EVALUATION

The Government of Japan will dispatch the mission for the evaluation of this cooperation and the discussion on the matters of the further cooperation, in March, 1979.

Dr. A. Ammar

Director  
Planning and Research Dept.  
Suez Canal Authority

Mr. Shoji Ishizuki

Head of Japanese Contact Mission,  
Japan International Cooperation Agency

- REFERENCE -

A total plan of this cooperation is tentatively shown as follows. Details of the plan for the 2nd and 3rd year will be discussed between both Governments at the end of the preceding year, respectively.

	Expert dispatch (Training in Egypt)	Training in Japan	Study
1st year		<ul style="list-style-type: none"> <li>◦ Basic computer-program-writing</li> <li>◦ Basic techniques of system analysis</li> <li>◦ Basic theories of maritime traffic transportation planning</li> </ul>	<ul style="list-style-type: none"> <li>◦ Study of function and organization of Economic Unit</li> <li>◦ Review of existing models and reports</li> <li>◦ Development of basic systems for transportation cost analysis and traffic forecast</li> <li>◦ Development of basic information management system</li> </ul>
2nd year	<ul style="list-style-type: none"> <li>◦ Outline of existing models</li> <li>◦ Basic systems for transportation cost analysis and traffic forecast</li> <li>◦ Basic information management system</li> </ul>	<ul style="list-style-type: none"> <li>◦ General techniques of analysis and forecast</li> </ul>	<ul style="list-style-type: none"> <li>◦ Development of major sub-systems for the Canal planning</li> <li>◦ Enhancement of information management system developed in the 1st year</li> </ul>
3rd year	<ul style="list-style-type: none"> <li>◦ Major sub-system for the Canal planning</li> <li>◦ Enhanced information management system</li> </ul>	<ul style="list-style-type: none"> <li>◦ Advanced techniques of analysis and forecast</li> </ul>	<ul style="list-style-type: none"> <li>◦ Enhancement of major sub-systems for the Canal planning</li> <li>◦ Development of total system toward the Canal planning</li> <li>◦ Introduction on comprehensive information management system</li> </ul>

資料 3 (2)

SCOPE OF WORK  
OF  
THE SECOND YEAR TECHNICAL COOPERATION PROGRAM  
TO  
THE PLANNING AND RESEARCH DEPARTMENT  
THE SUEZ CANAL AUTHORITY

MARCH 1979

## 1. INTRODUCTION

This document sets forth the technical cooperation program of the second year (the Japanese fiscal year 1979, April 1979-March 1980). In this document, the objectives, programs and schedule of the second year technical cooperation are to be stated. Both Governments will also agree to discuss on the matters and methods of the further cooperation program, considering the results of the second year cooperation program.

## 2. OBJECTIVES

The objectives of the cooperation program of the second year are as follows:

- (1) To cooperate to the SCA in developing methods of systems analysis of rational management and development planning of the Suez Canal, and also to transfer necessary technical knowledge and knowhows to the staff members of the SCA.
- (2) To cooperate to the SCA in carrying out a fundamental study of the second stage development project of the Suez Canal, and thus to provide to the SCA with information necessary for judgement on suitable timing for the second development project.

## 3. PROGRAM

In order to accomplish the objective (1), the following technical cooperation programs will be carried out:

- (1) Study of the techniques necessary for analyzing and forecasting management and development planning problems of the Suez Canal
- (2) Training of the staff members of the "Economic Unit" of the SCA both in Egypt and Japan

In order to accomplish the objective (2), the following technical cooperation programs will also be undertaken:

- (3) Review analysis of world economy and trade, maritime transport and transit volume
- (4) Forecasting analysis of potential transit volume

## 4. SCHEDULE

The schedule of the technical cooperation program is as follows:

- (1) For the Program (1), the JICA will dispatch the Japanese Survey Team

- to the SCA from May to June 1979 for the period of one and a half month. The Japanese Survey Team will also be sent to the SCA in January or February 1980 to present a draft final report.
- (2) For the Program (2), two Japanese experts will be dispatched to the SCA from June to July 1979 for the training of the staff members of the Economic Unit, and in addition, the JICA will organize the training program in Japan for several members of the Economic Unit for the period of about nine weeks from October to December 1979.
  - (3) For the Program (3) & (4), the JICA will dispatch a survey team to the SCA for the progress report in September 1979, and it is also planned that the draft report will be presented to the SCA in February 1980.
  - (4) As was the case with the technical cooperation program of the first year, the Contact Mission will be dispatched to the SCA in March 1980 for the purpose of the evaluation of the results of the second year cooperation and discussion of the matters concerning the third year cooperation program.

March 12, 1979

Ismailia, A.R.E.

Dr. Eng. A. AMMAR

Mr. YOSHIRO HARAGUCHI

Director of Planning &  
Research S.C.A.

Head of the Japanese Contact Mission  
for Technical Cooperation to the S.C.A.

**資料 4** エジプト・アラブ共和国スエズ運河経営システム設計  
計画調査に係る作業監理委員会設置要綱

第1条 国際協力事業団（以下「事業団」という）にエジプト・アラブ共和国スエズ運河経営システム設計計画作業監理委員会（以下「委員会」という）を設置する。

第2条 委員会は、事業団総裁の諮問をうけて、事業団が実施するエジプト・アラブ共和国スエズ運河経営システム設計計画調査に関する次の事項について審議する。

- (1) 調査の実施方針
- (2) 調査を実施させるコンサルタント等の選定
- (3) 現地調査計画
- (4) 成果品のとりまとめ方針
- (5) 成果品作成に必要な作業の範囲と内容
- (6) コンサルタント業務の監理および現地派遣監理要員の選定
- (7) その他必要事項

2. 委員会は、前項に掲げる事項について事業団総裁に答申する。

第3条 委員会は、委員長1名、委員7名をもって組織する。

2. 委員長および委員の担当業務は次のとおりとする。

編 成	担 当 業 務	人 数	推 薦 機 関
委員長	総 括	1	運 輸 省
委 員	国際経済分析	1	"
"	海 運 政 策	1	"
"	組織編成拡充計画	1	"
"	組織・業務分析	1	"
"	システム分析	1	"
"	海 運 情 報	1	"
"	情報・資料管理	1	"

第4条 委員長および委員は関係省の推薦に基き、事業団総裁が委嘱する。

2. 委員長および委員の任期は本件調査の完了までとする。

第5条 委員長は、委員会の会務および議事を総括する。

2. 委員長に支障のある場合は、あらかじめ委員長の指名する委員がその職務を代行する。



第6条 委員会の招集は、委員長が行う。

第7条 委員会の庶務は、事業団社会開発協力部開発調査課が行う。

「エジプト・スエズ運河経営システム設計計画調査業務  
(第1年次)実施契約仕様書」 (53.7.1)

## 第1条 総 則

この仕様書は国際協力事業団(以下「甲」という)が実施するエジプト・スエズ運河経営システム設計計画(スエズ運河庁計画・研究部門に対する技術協力計画)調査のうちコンサルタント(以下「乙」という)に契約により実施させる業務に関する仕様を示すものである。なおこの仕様に定めのない事項については「乙」は随時「甲」と協議のうえ、その作業をすすめるものとする。

## 第2条 調査の目的

本調査はスエズ運河庁内に運河経営、運河開発の基本方針等を確立することを目的に新たに設立された Economic Financial and Traffic Planning Unit(以下Unitという)に対する技術協力として、Unitがスエズ運河庁の期待する機能をはたしうるよう以下の内容について検討、提案実施することを目的とする。

1. Unitの組織・業務に関する諸調査
2. Unitの業務遂行に必要な諸システム、情報管理等に関する技術移転のための諸調査
3. Unitのスタッフの研修

## 第3条 業務の内容

「乙」は第4条業務の範囲に従い、以下の内容を実施するものとする。

## 3-1 組織・業務調査

- ① スエズ運河庁においてUnitの果すべき機能について検討・提案する。
- ② Unitの機能を発揮するために必要なUnitの機構、スタッフの員数、業務内容、業務量等について検討・提案する。この場合可能な限り具体的かつ定量的な提案を行うものとする。
- ③ Unitのスタッフに関し、キースタッフの備えるべき資格要件について検討・提案する。
- ④ Unitのスタッフに関し、現在キースタッフでないスタッフがキースタッフとして、上記③の資格要件を満足するためになされるべき研修等の内容について検討・提案する。この場合、研修とは我国の行方研修のみならず

「エ」国スエズ運河庁がUnitスタッフに実施すべき検討内容も含むものとする。

- ⑤ Unitの期待される機能を発揮するための段階的組織拡充計画(スタッフの充実を含む)について検討・提案する。

### 3-2 システム分析調査

- ① 本調査はUnitスタッフが3-1で検討された業務を自ら遂行するのに必要な諸技術、諸知識を修得することに資することを目的として実施する。
- ② 本年度調査で検討すべき項目は、おおむね以下のものと想定されるが、その項目内容については3-1の検討を通じて、適宜、適切なものに修正されるものとする。尚、来年度調査を遂行するにあたっては、3か年間にわたる全体の調査体系による位置づけを明確にしておく必要がある。

- i) 既存モデル、レポートの整理と分析
- ii) 輸送コスト分析、通航量予測の基礎的システム
- iii) 情報管理の基礎的システム

### ③ 来日研修

- (1) 本年度6週間程度スエズ運河庁スタッフ6名を受け入れ、オンザジョブトレーニングを実施する。
- (2) 本研修の目的は、Unitのスタッフが3-1で検討された業務を遂行するのに必要な能力を付与することを目的とし、3-1④で提案される研修の第1ステップに位置付けられるものである。
- (3) 本研修の内容は、概ね以下のものと想定され、コンサルタントは主としてii)を担当するものとするがその内容については、3-1の検討を通じて適宜適切なものに修正されるものとする。なおコンサルタントの実施する研修内容は、実務的なものでなければならない。
  - i) 基礎的なコンピュータプログラムライティング
  - ii) 基礎的なシステム分析技術
  - iii) 基礎的な海運、交通計画論
- (4) 本研修は、コンサルタントのみならずおおむね6週間、他関係機関によっても実施されるがコンサルタントの実施する研修内容は、他関係機関の研修内容と十分調整のとれたものでなければならない。
- (5) コンサルタントは、他研究機関で研修を行う際に研修補助を行うものとする。

- (6) 本年度研修の終了にあたっては、次年度以降の我国の研修実施に資するよう本年度研修の評価、スタッフの資質に関する問題等について、報告書を提出する。また、当該報告書の内容は3-1④に反映されなければならない。

#### 第4条 業務の範囲

本調査の業務の範囲は以下の通りとする。

##### ① 国内準備作業

現地調査に先立ち、今年度調査体系、現地調査詳細内容、その他、必要資料を「甲」の指示によって作成し現地調査の円滑化を図る。

##### ② 現地調査

目的達成のため、国内準備作業により作成した現地調査内容に従い、現地において、必要な情報資料の収集、関係機関の意見聴取を行う。また、現地滞在中に provisional observation report を作成し、その骨子をスエズ運河庁に提出する。

##### ③ 国内作業

現地調査において得られた情報・資料を基に、第3・業務の内容に従って各調査分野ごとに、検討解析する。

##### ④ 中間報告書の作成

###### i) 中間報告書(Ⅰ)

スエズ運河庁 Unit スタッフの来日研修時まで、本研修のテキストの内容として適切な調査検討内容を中間報告書(Ⅰ)としてとりまとめる。

###### ii) 中間報告書(Ⅱ)

組織業務関係調査に関する骨子をとりまとめた中間報告書を作成する。

##### ⑤ 中間報告書(Ⅱ)の現地説明及び修正

中間報告書(Ⅱ)を現地において説明し、意見調整を図る。また、コンサルタントは必要があれば中間報告書(Ⅱ)現地説明の際に、併せて組織業務及びシステム分析に関する追加現地調査を実施するものとする。

##### ⑥ 最終草案報告書の作成

⑤の中間報告書(Ⅱ)の現地説明時になされたスエズ運河庁との意見交換、追加現地調査及びスエズ運河庁スタッフの来日研修に関する報告書を勘案して、組織業務に関する最終草案報告書を作成する。

⑦ 最終草案報告書の現地説明

組織・業務に関する最終草案報告書を現地において説明し意見交換を行う。

⑧ 最終報告書

i) 最終報告書 (I)

組織・業務に関し、現地説明においてなされたスエズ運河庁の意見調整を勘案し、最終報告書を作成する。

ii) 最終報告書 (II)

システム調査に関する最終報告書を作成する。

第5条 成果品

「乙」は「甲」に以下の成果品を提出するものとする。なお、翻訳並びに印刷製本する際は、当該内容について事前に「甲」の承認を得るとともに印刷製本の仕様については、特に定めのあるものを除き「乙」は「甲」の指示をうけるものとする。

① 中間報告書

i) 中間報告書 (I)

中間報告書は、すべて英文で記載し、ゼロックス焼、若くはオフセット印刷で50部作成し「甲」に提出する。

ii) 中間報告書 (II)

中間報告書 (II) は、すべて英文で記載し、ゼロックス焼、若くはオフセット印刷で50部作成し、うち25部は、中間報告書説明のため「エ」国に派遣される調査団が持参し次のように配布する。

「エ」国政府	20部
日本大使館	3部
JICA事務所	2部

なお、配布時には受領印を受け取るものとする。また残部数は、「甲」に提出するものとする。

② 最終草案報告書

最終草案報告書は、全て英文で記載し、ゼロックス焼、若くはオフセット印刷により50部作成し、うち25部は最終草案報告書説明のため「エ」国に派遣される調査団が持参し、次のように配布する。

「エ」国政府	20部
日本大使館	3部
JICA事務所	2部

なお、配布時には、受領印を受け取るものとする。また残部数は、「甲」に提出するものとする。

③ 最終報告書

i) 最終報告書(Ⅰ)

- a. 最終報告書(Ⅰ)の印刷製本は、和文・英文に区別し、次の部数を作成し「乙」は「甲」に提出するものとする。

和 文 50部

英 文 100部

- b. 最終報告書(Ⅰ)の英文の仕様は以下のとおりとする。

なお、本項仕様に定めのない事項及び和文の仕様に関しては、「甲」が別途「乙」に指示するものとする。

- ・ 印刷製本 オフセット印刷
- ・ 仕上規格 A4版
- ・ 活字規模 英10ポ
- ・ 組版型式 セミダブルスペース 行末揃

ii) 最終報告書(Ⅱ)

- a. 最終報告書(Ⅱ)の印刷製本は、和文と英文と区別し、次の部数を作成し「乙」は「甲」に提出するものとする。

和 文 50部

英 文 100部

- b. i)のbに同じとする。

番 號	名 稱	著 者	發 行 所	發 行 年 次
1.	APPRAISAL OF SUEZ CANAL EXPANSION PROJECT, ARAB REPUBLIC OF EGYPT		WORLD BANK	1977.7.22
2.	ARAB REPUBLIC OF EGYPT, SUEZ CANAL AUTHORITY, DETERMINATION AND STRUCTURES OF DUES FOR SUEZ CANAL		PACIFIC CONSULTANTS INTERNATIONAL	1975.1
3.	DEVELOPMENT OF SUEZ CANAL FEASIBILITY STUDY FINAL REPORT VOLUME 1 Economic and Financial Studies PART A (Appendices) " " PART B VOLUME 2 Engineering Studies VOLUME 3 Operational Studies		COOPERS & LYBRAND ASSOCIATES LTD. MAUNSELL CONSULTANTS LTD.	1976.10
4.	DEVELOPMENT OF THE SUEZ CANAL FEASIBILITY STUDY	A.J. Pendlebury		1976.10
5.	DEVELOPMENT OF SUEZ CANAL REGIONAL PLAN	Raplh J. Watkins TIPPETTS-ABBET- McCARTHY-STRATION		
6.	SUEZ CANAL AUTHORITY Draft Final Report Stage 1 The Creation of an Economic, Financial and Traffic Planning Unit VOLUME 1 of 2 - MAIN REPORT VOLUME 2 of 2 - APPENDICES		METRA CONSULTING GROUP LTD.	1978. 5
7.	FACTORS INVOLVED IN DEVELOPING THE SUEZ CANAL			

	書 名	発行所	発行年次
8.	SUEZ CANAL DEVELOPMENT FEASIBILITY STUDY FINAL REPORT VOLUME 1 MAIN REPORT " 2 APPENDIX 1-PART 1 Potential traffic in the canal. " 3 APPENDIX 1-PART 2 " 4 APPENDIX 2 Model Studies " 5 APPENDIX 3-PART 1 Technical studies " 6 APPENDIX 3-PART 2 Technical studies " 7 APPENDIX 4 Economic and financial studies SUEZ CANAL TRAFFIC FORECAST AND TOLL SYSTEM ANALYSIS	SOCREAH	1976.11
9.	SUEZ CANAL TRAFFIC FORECAST AND TOLL SYSTEM ANALYSIS	TECNAVAL	1978.5
10.	スエズ運河閉鎖の経済的影響	UNCTAD. 輸海産研訳	1973.7
11.	スエズ運河再開の影響	日本郵船(部内資料)	1974.2.1



資料 7

SCA と調査団との交換文書

( R - 1 ) Inception Report on the Technical Cooperation Program to the Economic Planning Unit, SCA, Submitted to SCA by JST in July, 1978

< 目 的 > スエズ運河庁計画・研究部門に対する三年間の技術協力の目的、内容等を詳細に記述した報告書であり、現地調査団（昭 5 3. 7. 1 4 ~ 8. 1 2 ）が、この内容を Dr. Ammar 計画部長等に説明し、これにもとづき両者で協力内容の討議を行なった。

< 内 容 > 技術協力全体の目的、協力範囲、初年度の日程、協力体制について記述し、更に次に示す T A S K 内容について要約及び詳細説明がなされている。

T A S K I Economic Unit の組織・業務

T A S K II システム分析

II - 1 レビュー

II - 2 通航量予測手法とプロジェクト評価

II - 3 海上輸送コスト

II - 4 情報システム

T A S K III 研修計画

( R - 2 ) Similar Organizations in Japan, submitted to SCA by JST in July, 1968

< 目 的 > 1 9 7 7 年 3 月、事前調査団（石月団長）が S C A に提出することを約束してきたものであり、日本における S C A に類似する公的機関の調査計画機能、組織の中での位置付け、規模、人員構成などの概要を示し、例示的に説明してある。

< 内 容 > 本州四国連絡橋公団、新東京国際空港公団、首都高速道路公団の三つの機関の概要、組織、調査・計画部門、その規模、事務系／技術系の人員構成、分掌事項等を簡略に説明している。

( R - 3 ) Draft Final Report : The Creation of an Economic, Financial and Traffic Planning Unit ; Submitted to SCA by Metra Consulting Group, Ltd., in May, 1978

<目 的> 現地調査団がシステム分析用のケース・スタディ資料としてSCAより借用した。メトラ・コンサルティングがSCAに提出した組織業務についての報告書。

メトラ・コンサルティング・グループは、運河庁との契約にもとづき Economic Unit の組織業務調査を1978年1～5月に実施した。調査報告書は第1巻本文及び第2巻補注から構成されており、1978年5月に完了している。SCAは世銀からの第一次拡張計画についての借款条件として Economic Unit の設立を義務付けられている。

<内 容> この報告書はメトラ報告書の第1巻であり、下記の内容によって特徴づけられている。

- 1) Economic Unit は「THE STRATEGIC PLANNING SECTION (長期計画課)」「OPERATION ANALYSIS SECTION (業務分析課)」「TECHNICAL SUPPORT SECTION (技術分析課)」の三課によって構成される。
- 2) その中心は「THE STRATEGIC PLANNING SECTION」であり、Economic Unit は運河庁内外の長期計画に係る問題を調整する。総勢19人の専門家によって構成され、Unit は暫定的に「THE PLANNING RESEARCH DEPARTMENT (計画研究部)」に所属するが、Unit 確定後、総裁直属の機関となる。
- 3) Unit は当初からコンピューターリゼーションを業務に導入し、このため Unit メンバーは高度の経験と専門教育を必要とされる。
- 4) 本報告書では、その約半分を Unit の業務内容の技術的説明に充てられており、組織業務についての説明は比較的少ない。
- 5) メトラ報告書は、SCAの条件(必要とされる専門家の充足等)を無視した非現実的内容となっており、世銀の専門家からも批判されている。

(R-4) Appendices of the 'Metra Report, mentioned above.

<目 的> R-3資料と同じくシステム分析用の資料として現地調査団が借用した、メトラ報告書の第2巻補注

<内 容> R-3の補注として、以下の内容が記載されている。

海上輸送貿易商品リスト、情報源リスト、海上輸送航路及び船種、  
船型、分類、航路選択、通航量分析モデル、委託条件 ( TERMS  
OF REFERENCE )、研修カリキュラム、コンピューター・プログ  
ラム・パッケージ、参加研究者名簿

( R-5 ) A Supplement to an Inception Report on the Technical  
Cooperation Program to the Economic Planning Unit,  
SCA

<目 的> 現地調査団が Dr. Ammar との協議の結果、R-1 に記述されている  
II-4 システム分析 ( 情報システム ) に関する協力内容の変更の必要  
性が生じ、その修正を行なった。

<内 容> T A S K II-4 システム分析 ( 情報システム ) に関する作業内容の修  
正部分が記述されている。( 大規模なファイル作成などのデータ管理  
システム作成を中心とせず、データ類の分析を中心とするシステムに  
変更 )

( R-6 ) Agenda of Discussion on the Technical Cooperation  
Program to the Planning and Research Department, SCA,  
submitted to Dr. Ahmed A. Ammar by JST on September  
29, 1978

<目 的> S C A 計画研究部長 Dr. Ammar が来日中に、同氏に対して行った報  
告会の議題

<内 容> (1) T A S K 別進捗状況の概略  
(2) 来日研修 ( 1978.10~12 ) の目的、カリキュラム内容及び  
スケジュールの説明  
(3) S C A に対する技術協力内容、特に Economic Unit の組織及  
び業務についての計画の説明  
(4) 1979年3月までのスケジュールの説明及びその他関連事項の  
説明

( R-7 ) An Interim Report on the Study of the Organization  
and Function of 'Economic Unit', submitted to the

SCA by JST in November, 1978, by Mr. Y. Sato and  
Mr. Osada.

<目的> SCAに対する技術協力の中での Economic Unitの「組織・業務」に関する調査報告書の内容を中間段階でSCAに提示し、SCAの意見、要請などを最終報告書の中に組み込むための検討資料（JICAに提出された公的成果品の一つ）

<内容> Economic Unitの機能、組織、業務、要員などについての基本的枠組みと、その発展を第一部で論じ、それに沿って日本の技術協力プログラムがどのように実施されるかを第Ⅱ部で説明している。

( R-8 ) Evaluation Report on Training Program in Japan  
( October - December, 1978 )

<目的> 1978.10～12に実施した6人のSCA研修員に対する来日研修の成果を評価し、もって1979年度の研修計画の内容、レベルなどの検討に資することを目的とする。

<内容> 評価はGeneral Aptitude Check List法など五種の方式で行なっている。一般的な研修による進歩具合、テーマ毎の理解度、各講師による講義テーマ毎のコメント、問題点が記せられている。結論として1979年以降の研修計画に対する推奨事項がまとめられている。

( R-9 ) Draft Final Report on the Study of Organization and  
Function of Economic Unit.

<目的> SCAとの協議により部分的にR-7を修正し、さらに構成、内容等を精選して最終的にSCAの了解を得るための資料（JICAに提出された公的成果品の一つ）

<内容> R-7に部分的修正及び来日研修の評価結果をとり入れた最終報告書の草案

( M-1 ) Schedule of the Present Field Survey,

1978.7~8 現地調査団がSCAに提出した現地調査のスケジュール

( M-2 ) Memorandum on Qualifications of Trainees,

運輸省、長友、井上(作業監理委員)両氏によりSCAに提出、説明した研修員の資格条件

( M-3 ) Memorandum

現地調査団がSCAに提出したInception Report及び研修員のテスト結果等についての了解事項

( M-4 ) An Outline of Training Program for the First Year

( August 1978 - March 1979 )

現地調査団がSCAに提出した1年目の研修計画

①現地オリエンテーション ②来日研修までのアサインメント

③来日研修 1978.10~12 ④アサインメント等

( M-5 ) A Memorandum on an Inception Report on the Technical

Cooperation Program to the Economic Unit

現地調査団とアンマル計画部長が了解(8月6日)したメモランダム

①インセプション・レポート修正の確認 ②研修員選出の確認

③技協スケジュールの説明等

( M-6 ) Appendices to the Memorandum on an Inception Report

現地調査団とアンマル計画部長が了解(8月8日)したM-5の補足メモランダム

①SCAにおける調査団の現地調査内容

②SCAより借用したレポート、資料等のリスト

③SCAに対する依頼事項

④研修員に対する来日研修までのアサインメント

( M-7 ) A Memorandum Exchanged Between Dr. Ammar and Mr. Sato  
on September 29th, 1978

訪日中のアンマル部長と調査団とで協議し、了解したメモランダム(1978.9.29)

( M - 8 ) A Memorandum Exchanged Between Dr. Ammar and Mr. Sato  
on November 25th, 1978

組織業務調査中間報告書についての了解事項と部分的修正の確認事項

( M - 9 ) Assignments and Instructions to the Economic Unit  
for the Job Initialization

最終報告案説明のため訪「レ」した調査団が S C A に提出した研修生に対するアサ  
インメントと業務開始についての指示

( M - 10 ) A Memorandum Exchanged Between Dr. Ammar and Mr. Sato

最終報告案説明のため訪「レ」した調査団が S C A ととり交した最終確認メモラン  
ダム ( 1 9 7 9 . 2 . 2 1 )

① 「組織業務最終案報告書」の了解と、部分的修正事項

② 来日研修結果評価

③ 新人の評価

④ 現地作業内容とアサインメント

⑤ S C A の希望の確認

Address: 1, Shiba Nishikubo Shiroyama-cho, Minato-ku, Tokyo

Funcamental Registration: Honsu-Shikoku Bridge Authority Act

Supervisory Office: Office of Administrator for Japan Highway Public Corp. (JHPC)  
& HSBA, Bureau of Highway Construction, Ministry of  
Construction

Office of Administrator for Japan Railway Construction Corp.  
(JRCC) & HSBA, Department of National Railway, Bureau of  
Railway Administration, Ministry of Transport

Founded: July, 1970

Purpose of Foundation:

To construct tollways and railroads bridging Honshu (the Main Island) and Shikoku Island and to maintain those structures and facilities under the effective and comprehensive management organization in order to improve the transportation of the area and to ultimately expedite a balanced growth of national economy and industry.

Business Outlines:

1. To supervise and control construction, reconstruction, maintenance and repair of the national highways bridging Honshu and Shikoku Island and its coordination.
2. To supervise and control construction and maintenance of national railways bridging Honshu and Shikoku Island and the affiliated facilities, and its coordination.
3. To lease those railways and affiliated facilities to Japan National Railway (JNR)
4. Rehabilitation of those highways and railroads damaged by disasters and accidents
5. Construction and management of tall parking lots
6. Construction and management of rest reas, fuel service stations and other necessary facilities belonging to those bridges
7. Any other works required in relation to the above activities
8. To perform entrusted onstruction or survey of large-scale bridges
9. Construction and management of appropriate office and store buildings and warehouses

Number of Employees: 630

Organization Chart: (Figures in parentheses denote number of staffs)

President	General Administration Dept. (39) Control all general matters including General affairs, Personnel, Welfare, Public relations, General Survey, etc.
Deputy President	
Chief Engineer	
Directors	Financial Dept. (17) Accounting and Financial affairs
Superintendents	Procurement and Compensation Dept. (15) Contracting, Negotiation on land procurement and compensation to owners/residents, etc.
Councilors	Project Planning and Development Dept. (35) Planning and coordination work of the projects
	Engineering Dept. (19) Design and engineering of bridges, and Coordination work in various surveys on construction methods, topographical and geological features, etc.
	No. 1 Construction Administration Dept. (18) Coordination work for No. 1 and No. 2 Construction Headquarters
	No. 2 Construction Administration Dept. (19) Coordination work for No. 3 Construction Headquarters
	Office of Secretaries (4) Secretarial work for the executives
	Office of Auditors (4) Auditing for accounting and operations
	Office of Counselors (5) Counseling and survey on various conflicting problems which may be caused by opening of a new bridge, such as ferry transportation, etc.
	Office of Evaluator (1) Internal and personnel evaluation
	No. 1 Construction Headquarters, Kobe (67) Supervising work of Kobe-Naruto Bridge construction sites Administration Department Construction Department Tarumi Construction Office (15) Sumoto Construction Office (25) Naruto Construction Office (55)
	No. 2 Construction Headquarters, Okayama (64) Supervising work of Kojima-Sakaide Bridge construction sites Administration Department Construction Department Kurashima Construction Office (16) Kojima Construction Office (34)



Sakaide Construction Office (53)

No. 3 Construction Headquarters, Onomichi (52)

Supervising work of Onomichi-Imaharu Bridge construction sites

Administration Department

Construction Department

Mukohjima Construction Office (40)

Imaharu Construction Office (31)

Detailed Staffing Structure and Assignments of Project HANDLING DEPARTMENT:

Project Planning and Development Dept.

<u>Name of Section</u>	<u>Number of Clerical Staffs</u>	<u>Number of Technical Staffs</u>	<u>Total</u>	<u>Assignments</u>
Planning	1	8	9	Planning, execution and coordination of the projects Technical development and improvement
Economic Survey	3	2	5	Economic and traffic surveys
Highway Project	0	6	6	Basic planning and design of highways and parking facilities
Railway Project	0	6	6	Basic planning and design of railroad facilities
Environmental Research	1	5	6	Preservation of environments, cultural structures, etc.
General Affairs	2	1	3	Management and maintenance of Tallways
Total:	7	28	35	

Tokyo Expressway Public Corporation

Address: 4-1, 1-chome, Kasumigaseki, Chiyoda-ku, Tokyo  
 Governing Law: The Tokyo Express Public Corporation Law  
 Supervising Ministry: The Ministry of Construction  
 Establishment: June 1959  
 Purposes of the Business: Construction, reconstruction, maintenance,

repair of toll motorways in metropolitan Tokyo area and its suburbs. Promoting the building of motorways and striving for smooth traffic which would contribute the maintenance of the function of the metropolitan Tokyo.

## Outline of the Business:

1. Construction, reconstruction, maintenance, repair and other management of toll motorways as provided by city planning.
2. To make repair work on a stricken toll motorways.
3. Construction and reconstruction of motorways as provided by city planning under the commission of the government or municipalities and under the commission of municipalities does some works as provided by law of the street redevelopment plan which is included in the city redevelopment plan.
4. Construction and management of toll parking lots which included in the city planning.

Number of Employees: 1,399

## Personnel setup and partial charge of the planning Department

	<u>Clerical Employee</u>	<u>Engineer</u>	<u>Total</u>	<u>Partial Charge</u>
Planning Section	11	0	11	Planning and coordination of the business and supervising business plan
The First Planning Section	0	13	13	Approval of cith planning which is related to Tokyo Expressway and related roads
The Second Planning Section	0	8	8	Future plan of Tokyo Express network and the city planning 2hich is related to the new routes

Secretary Section	Inspection of the business of the corporation
Section of Inspection - Inspector (2)	Matters related to the basic business policies and overall coordination
General Affairs Dept.	Accounting the expense and income related to administrative expenses
General Affairs Section	Public information and advertisement
Accounting Section	Appointment and dismissal of directors and employees and others
Public Information Section	Negotiation with labor union
Personnel Dept.	Matters related to the welfare of employees
Personnel Section	Budget and settlement of accounts
Labor Section	Making funds schedule and keeping funds
Welfare Section	Matters related to contract
Accounting Dept.	Acquisition of property and movable estate
Accounting Section	Planning of managerial work of the Tokyo Expressway
Funding Section	Planning of operation and administration of the Tokyo Expressway
Contract Section	Refunding schedule and fixing and changing toll
Property Custodial Section	Planning of traffic control of Tokyo Expressway
Road Administration Section	Basic design of traffic control facilities
Business Section	Planning of traffic control systems of Tokyo Expressway
Economic Section	Planning and adjustment of business
Traffic Control Dept.	Approval of city planning works which are related to Tokyo Expressway
Traffic Administration Section	Future network of Tokyo Expressway
Traffic Facility Section	General control of research expenses and conducting survey on traffic and transportation of Tokyo Expressway
Control Engineering Planning Section	Office work related to land acquisition
Vice-Chief	Acquisition of property to be used for the business
Planning Dept.	Compensation for the land acquired
Project Section	Planning of road construction work
First Planning Section	Managing conditions attached to the plan of works
Second Planning Section	Giving work specifications of road construction
Research Section	Standard of road design and technical guidance
Vice-Chief	Planning of maintenance, repair works for Tokyo Expressway and annexed facilities
Land Dept.	Construction of parking lots and other facilities
Administration Section	Planning of operation of work of machinery equipment
Land Section	Planning of operation of work on communication equipment and traffic control facilities
Compensation Section	
Vice-Chief	
Engineering Dept.	
Engineering Section	
Work Administration Section	
Work Guidance Section	
Design Engineering Section	
Vice-Chief	
Preservation Facilities Dept.	
Preservation Planning Section	
Construction Section	
Equipment Section	
Communication Section	
Vice-Chief	

The Chairman of the Board of Directors  
 Vice-Chairman of the Board of Directors (6)  
 Councillor (1)  
 Auditor (2)

- First Construction Dept.
- Second Construction Dept.
- Third Construction Dept.
- Bay Shore Route Construction Dept.
- Tokyo Administration Dept.
- Bay Shore Route Administration Dept.
- Tokyo Preservation Dept.
- Kanagawa Administration Dept.
- Parking Lot Administration Dept.

The Environmental Engineering Section	0	6	6	Matters related to the Environmental Effect Evaluation Law
The Research Section	0	11	11	Supervising research expense. Research of traffic and transportation. Study of economical effect and profitability of motor-ways

New Tokyo International Airport Corp.

R - 2 (3)

(NTIA)

Address: Akasaka Aoicho 2-chome, Minato-ku, Tokyo

Fundamental Regulation: New Tokyo International Airport Act

(Article No. 115 issued on June 2, 1965)

Supervisory Office: New Tokyo International Airport Section, Department of Airport Administration, Bureau of Air Transport, Ministry of Transport

Founded: July, 1966

Purpose of Foundation:

To construct a new Tokyo international airport and to maintain those structures and facilities under the effective management organization in order to improve the air transport condition of the area and to ultimately expedite an overall growth of the nation's air transport industry in addition to obtain a better position in the international standings.

Business Outlines:

1. To construct and maintain the new Tokyo international airport.
2. To construct and maintain the facilities for flight control and security of the airport.
3. To construct and maintain the airport facilities for passenger and cargo handling and for fuel supply.
4. Necessary works for environmental noise control and compensation to the residents of the new airport area
5. Construction and management of other airport facilities such as offices, shopping mall, etc.

To perform entrusted construction, survey, design, testing and research concerning airport construction projects.

Number of Employees: 786

Organization Chart:

Project Councilors (5-6)

Special assignments such as negotiation with the local power, guarding, pipe line installation project, etc.

Corporate Planning Office (40)

Public Relations, Local Human Relations, Management control

President	<u>Airport Project Planning Office (30)</u>
Deputy President	Layout of the airport facilities, Project budget control, and other general coordination work
Directors	<u>General Administration Dept. (70)</u>
Superintendents	Personnel, Controlling, Welfare and other general affairs
	<u>Financial Dept. (50)</u>
	Accounting, Funding, Financial control, etc.
	<u>Land Procurement Dept. (50)</u>
	Procurement and maintenance of the land, and compensation to the owner/residents
	<u>Construction Administration Dept. (60)</u>
	Design, Supervising and coordination of construction, Government relations
	<u>Fuel Facility Dept. (50)</u>
	Fuel pipe line project
	<u>Operation Service Dept. (70)</u>
	Airport operation works such as landing fee calculation, collection, etc.
	<u>Environmental Control Dept. (25)</u>
	Noise control
	<u>Operation Div. (300)</u>
	<u>General Administration Dept.</u>
	All general matters including the division's financial control
	<u>Operations Control Office</u>
	The ground control of aircrafts
	<u>Security Dept.</u>
	Security-guarding, Fire and other emergency services
	<u>Fuel Service Dept.</u>
	Refueling to the aircrafts, and fuel supply
	<u>Maintenance Dept.</u>
	Maintenance of the airport facilities
	<u>Construction Div. (40)</u>
	<u>Administration Dept.</u>
	Administration and coordination work of Phase II construction project
	<u>No. 1 Construction Headquarters</u>
	Supervising work of Phase II construction
	<u>No. 2 Construction Headquarters</u>
	Supervising work of the fuel pipe line construction

Detailed Staffing Structure and Assignments of Project Handling Departments:

<u>Name of Dept.</u>	<u>Number of Clerical Staffs</u>	<u>Number of Technical Staffs</u>	<u>Total</u>	<u>Assignment</u>
Corporate Planning	35	5	40	Public Relations, Local Human Relations, Management Control, Fuel Supply Project, Estimate and forecast on users, etc.
Project counselors			5-6	Special assignments such as negotiation with the local power, guarding, pipe line project, etc. at the top management level
Airport Project Planning	25	5	30	Layout of the airport facilities, Project budget control, and other general coordination to promote the project

資料 7 (2)

A SUPPLEMENT TO AN INCEPTION REPORT  
ON  
THE TECHNICAL COOPERATION PROGRAM TO THE ECONOMIC  
PLANNING UNIT, SUEZ CANAL AUTHORITY

SUBMITTED TO SCA ON JULY 30TH, 1978  
BY JAPANESE SURVEY TEAM FOR THE TECHNICAL  
COOPERATION TO THE ECONOMIC PLANNING UNIT,  
SUEZ CANAL AUTHORITY



A SUPPLEMENT TO AN INCEPTION REPORT  
ON THE TECHNICAL COOPERATION PROGRAM TO THE ECONOMIC  
PLANNING UNIT, SUEZ AUTHORITY

It is proposed that the following modifications will be made on the contents of the INCEPTION REPORT, submitted to SCA by JST (Japanese Survey Team) in July, 1978. The proposed modifications are limited to TASK II-4: Information Management System.

It is requested that the descriptions provided in the INCEPTION REPORT with regard to TASK II-4 will be replaced by the following revisions indicated in the following paragraphs:

TASK II-4 INFORMATION SYSTEM  
(A Summary Description)

1. Objectives

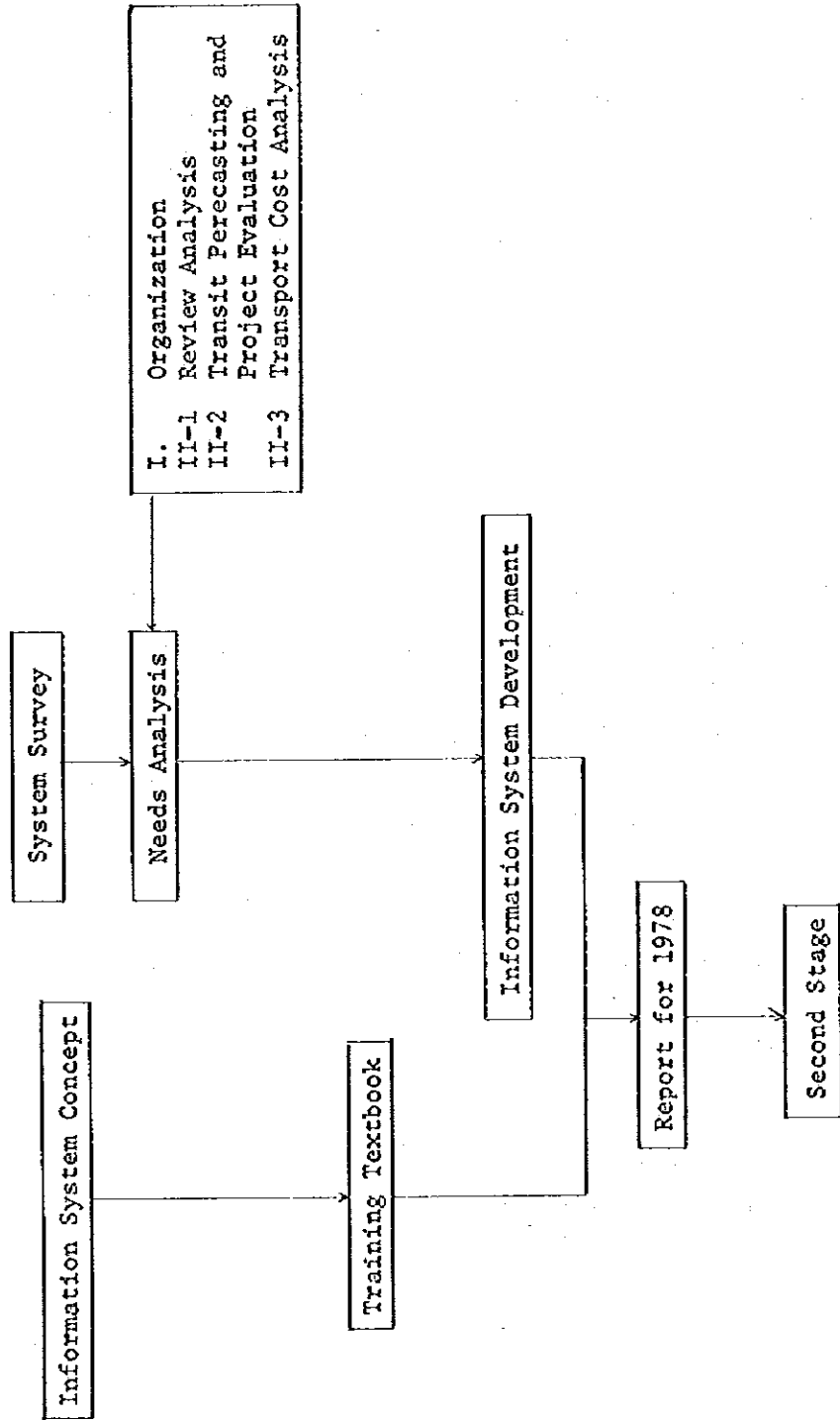
The objective of this TASK is to develop an information system for the Economic Unit. It must be developed to meet the needs of the Economic Unit so that it can most effectively perform its functions. The information System will be developed concerning the documents, data, reports and other information which are reviewed in TASK II-1 and those which are viewed necessary for the task of transit forecasting and project evaluation.

2. Scope of Work

The following works will be done for this TASK:

- 1- Preparation of lists and indices of the information sources that will be used by the Economic Unit.
- 2- Preparation of Data Handbook.
- 3- Preparation of manual of analysis techniques of the information and data.
- 4- Preparation of report writing.

3. Program Flow of This Task  
The present Field Survey



4. The Survey Items of the present Field Work

(See Questionnaire of Task II-4)

1- Survey Items of Information System at SCA and in Egypt.

Information flow and data requisition and distribution flow, both within and between, Planning and Research Department and related Departments such as Transit Dept. Engineering Dept.; and others.

Extent to which computers are being used in ARE and SCA, and identification of the problems relating to computer use.

2- Needs Analysis:

Discussion on requirements of the Information System for the Economic Unit.

Identification of technical and other obstacles for the establishment of Information System.

TASK II-4 INFORMATION SYSTEM

(Detailed Description)

1. Objectives

The objective of this Task is to develop an Information System for the Economic Unit. It must be developed to meet the needs of the Economic Unit so that it can most effectively perform its functions. The Information System will be developed concerning the documents, data, and information which are reviewed in Task II-1, and these which are viewed necessary for the task of transit forecasting and project evaluation.

2. Scope of Work:

This Task aims at establishing Information System in the Economic Unit on the basis of which it can fully perform its functions and roles. It is planned that by the end of the technical cooperation program the Economic Unit is well equipped with the Information System which is necessary for executing its assigned tasks.

It is proposed that the following works will be done during the period of technical cooperation.

- 1- Construction of list and indices of the information sources through which the staff members of the Economic Unit could acquire technical

skill of locating and using the data and information to be required for their works of analysis, forecasting, writing report etc.

- 2- Preparation of Data Handbook; it is proposed that the Economic Unit will annually publish Data Handbook in which data and information are systematically compiled for the purpose of planning and management of Suez Canal; necessary and preparatory works will be made during the cooperation period so that the Economic Unit's staff members will be able to publish the Data Handbook by themselves after 1980.

It is proposed that the following data will be included in Data Handbook:

External Data

1. World economy and trade
  2. Energy (Oil, LPG and LNG)
  3. Other resources
  4. Sea-borne trade
  5. World fleet
  6. Ship costs
  7. Freight market
- etc.

Internal Data

1. Transit data (including ship, and cargo data, transit and waiting time, congestion, etc.
2. Other internal data as required.

- 3- Preparation of Manual of analysis techniques, it is expected that the Economic Unit will become able to produce short "analysis reports" on such topics as required and/or requested by Director Planning & Research Department, for this purpose it is proposed that during the period of technical cooperation the manual will be prepared on such analysis techniques as "time series analysis," statistical analysis, "forecasting methods etc."

The manual of analysis techniques will become "methodology guidebook" for the Economic Unit's staff members whenever they have to write analysis reports on any topics which are vitally important for SCA.

- 4- Preparation of report writing; it is expected that the Economic Unit will publish on regular basis in the future "review analysis report" on major trends of world economy and trade, energy and resources,

Canal transit, and so on which directly affect planning and management of Suez Canal.

The following recommendations will be made concerning the review analysis report:

- 1- Topics included
  - 2- Frequency of publication
  - 3- Priority of the subjects to be analyzed
  - 4- Format of the report to be used
  - 5- Methods or analytical techniques to be used
  - 6- Other related matters
- 5- Training programs of the task objectives mentioned above; in order to achieve the task objectives the following training will be provided to the trainees of the Economic Unit during the period of technical cooperation:
- 1- Methods of data survey
  - 2- Methods of summarizing data such as plotting, graph making etc.
  - 3- Methods of theoretical and applied analysis of data and information
  - 4- Methods of quantitative analysis of data such as time series analysis, statistical analysis etc.
  - 5- Methods of forecasting
  - 6- Methods of report writing

3. Work Procedure of the First Year

See Figure II-4-1

4. An Overall Task Program of Three Years

See Table II-4-1

Figure II-4-1 Work Procedure of the First Year

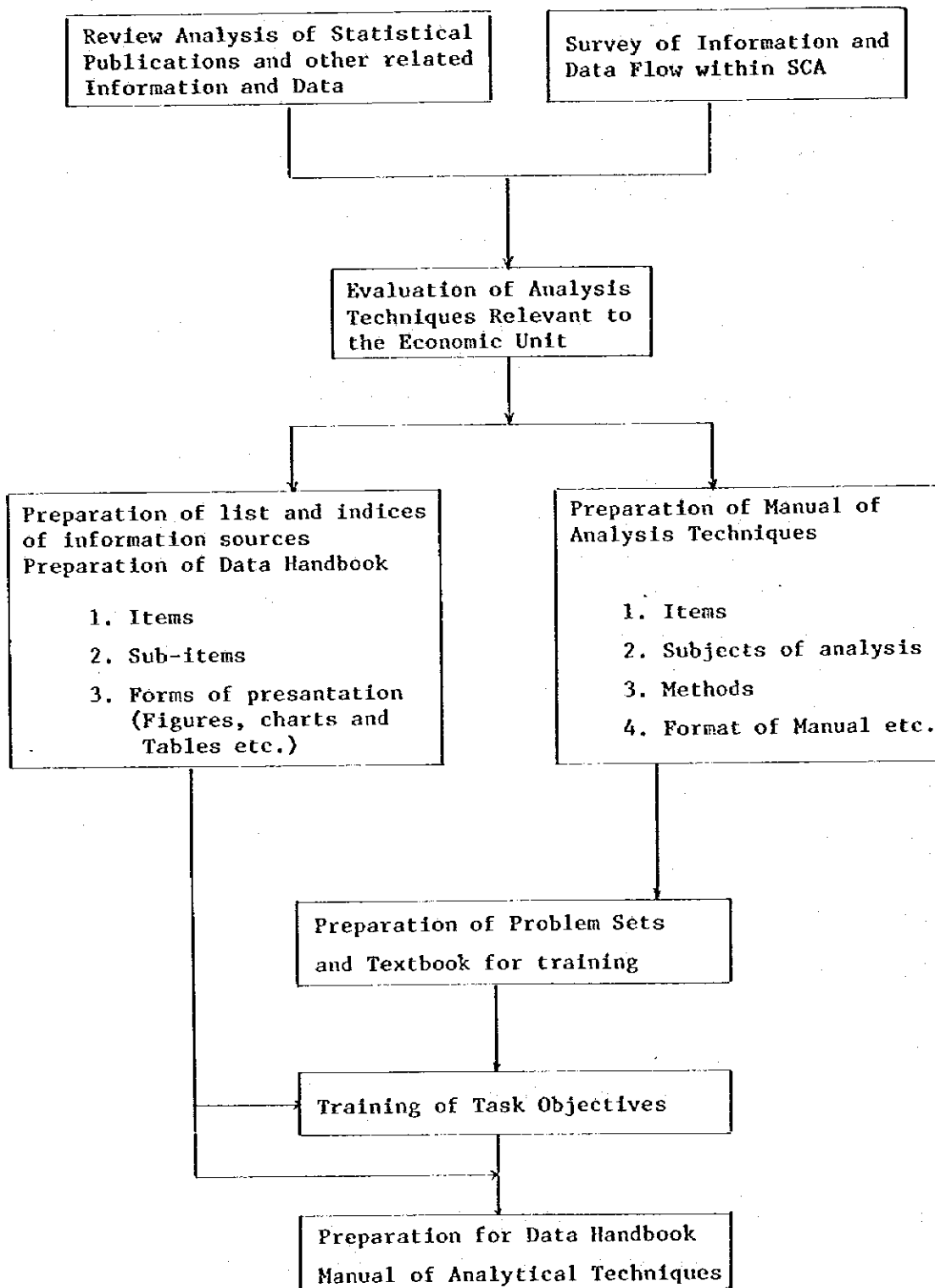


Table II-4-1 An Overall Task Program of Three Years

	1978	1979	1980
Preparation of Textbooks	<p>List and Indices of Information and Data</p> <p>Data Handbook (Part I) of External Data and Internal Data such as Transit Data</p> <p>Manual of Analytical Techniques (Introductory)</p>	<p>Data Handbook (Part II) of External and Internal Data</p> <p>Analysis Techniques (Intermediate)</p>	<p>Analysis Techniques of External and Internal Data (Intermediate)</p>
Training	<p>Exercises of Problem Sets of Data Collection, Compilation, Analysis and Report Making (Introductory)</p>	<p>Exercises of Information System (Introductory and Intermediate)</p>	<p>Exercises of Information System and Analysis (Intermediate)</p>
Remarks		<p>Data Handbook is to be updated by staff members of the Economic Unit</p>	<p>Review Analysis Reports of periodical and not periodical, will be prepared by staff members of the Economic Unit from 1981</p>

1. Widely ranging systems analysis which is to be one of main functions of the Economic Unit is made possible with full understanding of a number of factors related to the systems and continuous efforts to refine them. The success of the new Unit, therefore, depends largely upon whether Suez Canal Authority can recruit well-qualified staffs for these activities.
2. While detailed qualification and formation of the Unit's staffs will be proposed by the study of this year on its function and organization, three, at least, of six staffs who will participate a training program in Japan this fall should have more than 5-6 years' practical experiences in systems analysis so as to enable the Unit to be put into operation within a short period of time. The importance of experienced staffs for the Unit would be to some extent shown by attached examples of Japanese organizations with similar functions as the Unit's.
3. It is also needed for the efficient and prompt establishing of the Unit that its staffs, especially trainees of this year's program, have either practical experiences or educational backgrounds in the following fields;
  - a) probability, statistics, applied mathematics,
  - b) economics, regional economics, cost benefit analysis,
  - c) computer aided systems development, and
  - d) marine traffic and transportation planningWith respect to the staffs' graduating faculty, they have not necessarily only to be graduates of economics or business, but also those of other faculties relating systems analysis and transportation planning, such as system engineering and civil engineering.
4. Even if SCA should be confronted with difficulties in recruiting staffs to meet the above qualification this year, it is recommended for establishing the well-function Unit that SCA will continuously make great efforts to secure qualified staffs according to a proposal of the Japanese Survey Team.



July 25, 1978

A series of meetings was held at S.C.A. Office during the period of July 16th, July 24th, 1978 to exchange the opinions and views between Dr. ANMAR, Director of Planning & Research Department, S.C.A. and members of Japanese Survey Team (JST) on the matters concerning the Technical Cooperation Program for the Economic Planning Unit, Suez Canal Authority. This Memorandum is presented here to indicate that mutual agreement and understanding have been reached for the parties concerned on the following:

1. On Inception Report:

1.1 The Inception Report was prepared in Japan as Japanese Government's understanding of the Scope of Work of the Technical Cooperation Program for the Economic Planning Unit, S.C.A. However, it must be understood that how the proposed program will be carried out will be decided by taking into a careful consideration the wishes and opinions expressed by Chairman of S.C.A. and Dr. Anmar, and also the results of our forthcoming studies. Revisions and modifications will be made later, if they are necessary, on the contents of the Inception Report in order to accomplish the objectives set forth in it.

1.2 Mutual agreement has been reached upon the general framework of the proposed cooperation Program. However, the following notes must be made:

- 1) To the item of (2) Resources, 2. Scope of TASK II-I REVIEW ANALYSIS, added is collection and analysis of forecasting reports on energies (particularly oil and gas).
- 2) REVIEW ANALYSIS (TASK II-I) will only be made upon the data, information and reports which are judged of considerable importance for S.C.A.
- 3) A preparatory study will be made in 1978 on Transit Data information system which was planned to be carried out in 1979 (See Figure II-4-1, p.46).
- 4) A general framework of the training program in Japan is indicated in TASK III Staff Training Program. However its detailed program will be decided later after a careful

consideration shall have been made upon job responsibilities and requirements of the Economic Unit and also upon capabilities of the selected trainees.

## II. On Matters Related to Staff Training Program in Japan

In selecting six trainees who will receive training program in Japan, Japanese Survey Team conducted face to face interviews with the candidates in order to evaluate their qualifications.

2.1 Upon Japanese Survey Team's recommendation to S.C.A. the following trainees were selected by S.C.A.

- 1) Mr. Ramadan Hegazi
- 2) Mr. Mahmoud Rizk
- 3) Miss Waffa Sobhy
- 4) Mr. Sayed Marai
- 5) Mrs. Fatma El-Quady
- 6) Mr. Abdeltwab Haggag

2.2 However, it must be noted that those trainees listed above are not considered fully meeting the qualifications (spelled out in "Memorandum on Qualifications of Trainees in 1978" M-2) required for acquiring necessary skills and knowledge to perform the functions and tasks proposed in the Inception Report. The training program suggested in the Inception Report must be changed, for trainees must be first given basic training courses prior to more advanced programs recommended in the Report.

2.3 It is strongly advised that the selected trainees should exert all their efforts to prepare them selves for their training in Japan prior to their departure for Japan. It is proposed that Japanese Survey Team will, while being in Ismailia, provide the trainees with the following:

- 1) A brief orientation course on the training program.
- 2) A list of standard textbooks of such basic disciplines as Mathematical Economics, Statistics and the like.

2.4 It is advised that S.C.A. will take the following actions at the earliest possible time:

- 1) S.C.A. will provide the information to Japanese Government on

the names, number, qualifications and other related matters of trainees thus selected.

- 2) Government of Arab Republic of Egypt will submit an official application for the trainees to receive training program in Japan to Japanese Government through diplomatic channel.

### III. Other Matters:

It is strongly suggested that for the purpose of expediting future communication, memorandum, documents, reports and others which will be exchanged between S.C.A. and Japanese Survey Team should be identified by symbols attached to them. The symbols to be used for this purpose will be presented to S.C.A. later. In the meantime the following symbols shall be used for the documents exchanged so far.

R-1 Inception Report on the Technical Cooperation Program to the Economic Planning Unit, S.C.A. submitted to S.C.A. by JST in July, 1978.

R-2 Similar Organizations in Japan; submitted to S.C.A. by JST in July, 1978.

R-3 Draft Final Report: The Creation of an Economic, Financial, and Traffic Planning Unit; submitted to S.C.A. by Metra Consulting Group, Ltd. (hereafter called "Metra Report"). In May, 1978.

R-4 Appendices of the "Metra Report" mentioned above.

M-1 Schedule of the Present Field Survey, submitted to S.C.A. by JST in July 1978.

M-2 Memorandum on Qualifications of Trainees in 1978 submitted to S.C.A. by JST in July 1978.

Dr. AHMED A. AMMAR  
DIRECTOR,  
PLANNING & RESEARCH DEPARTMENT  
S.C.A.

Mr. Fumiaki NAGATOMO  
Supervisory Committee

Mr. Yoshio SATO  
Leader, Japanese Survey Team for Technical  
Cooperation to the Economic Planning Unit,  
S.C.A.

資料 7 (5)

A MEMORANDUM ON AN INCEPTION REPORT  
ON  
THE TECHNICAL COOPERATION PROGRAM TO THE ECONOMIC  
PLANNING UNIT, SUEZ CANAL AUTHORITY

SUBMITTED TO PLANNING AND RESEARCH DEPARTMENT  
SUEZ CANAL AUTHORITY  
ON AUGUST 6TH, 1978

BY JAPANESE SURVEY TEAM FOR THE TECHNICAL  
COOPERATION

#### On Additional Agreements

On July 25th, 1978, a memorandum was exchanged between Suez Canal Authority (S.C.A.) and Japanese Survey Team (J.S.T.) to indicate that mutual agreement was reached for the both parties concerned on matters relating to An Inception Report on the Technical Cooperation Program to the Economic Unit, Suez Canal Authority and other problems closely associated with it. The memorandum was signed both by Dr. Ahmed A. Ammor, Director, Planning and Research Department, S.C.A. and Messrs. Fumiaki NAGATOMO and Yoshio SATO on behalf of their respective organizations to authorize the agreement. However, the memorandum only covered the agreement reached during the first half of Japanese Survey Team's field work at S.C.A. from July 16th to July 25th, 1978. Thereafter additional confirmations were made by the both parties on the matters with regard to the Technical Cooperation Program. It is understood that the additional agreements reached should be interpreted as an integral part of the aforementioned memorandum; They are as follows:

##### 1.1 On Inception Report:

Modifications were proposed by Japanese Survey Team (JST) on Inception Report regarding its contents of TASKS II-4: Information Management System. The modification proposal was submitted to Dr. Ammar by (JST) on July 30th, 1978 as A Supplement To An Inception Report On The Technical Cooperation Program To the Economic Planning Unit, Suez Canal Authority, (R-5).

It is understood that mutual agreement has been reached on the revisions proposed in it. The "Supplement" is herewith attached to this document to witness the agreement.

##### 1.2 On the Trainees Selected:

Names of six trainees of the Economic Unit who will receive technical training program in Japan from October to December, 1978 are listed in the Memorandum (M-3) submitted to SCA by (JST) on July 25th, 1978. Mutual understanding was reached concerning the selection of the trainees as follows:

- 1) The selection of the trainees is a final one.
- 2) No change will be made on the list of trainees without prior approval of Japanese Government.
- 3) Any inquiry concerning the trainees should be made to Japanese Government through diplomatic channel.

## II. Planned Schedule of the Technical Cooperation Program for the First Year

It is agreed that the technical cooperation program of the first year will be carried out according to the following schedule and conditions. However, it must be understood that some minor modifications may be made later, if they are considered necessary, on the planned schedule suggested here.

### 2.1 On submission of Final Report on Task I

A final report will be made upon the technical cooperation program of the first year in accordance with the following schedule:

- 1) The final report on Task I will be submitted to SCA, and it will be written in English.
- 2) Explanation will be made upon the contents of the report in depth by technical experts at SCA in Egypt.
- 3) The submission and explanation will be made on the final report until the end on March, 1979.

### 2.2 On Progress Report on the Cooperation Program

Progress report on how respective Tasks of the cooperation program will proceed should be made to SCA according to the following methods:

- 1) At the initial phase of the Program full explanation will be made to Dr. Ammar, Director of Planning & Research Department, SCA on how each of the Tasks of Inception Report is being executed, while he shall be visiting Japan from September 17th to October 1st, 1978.
- 2) For the remainder of the year correspondence will be exchanged between SCA and JST in order to assure that the both parties will have clear understanding of how respective Tasks of the technical cooperation program are to be carried out.

### 2.3 On Questions Arising on the Cooperation Program

Whatever questions might arise in the future concerning the Technical Cooperation program will be resolved with good faith by the both parties concerned. It is agreed that any questions arising, regarding this Program will be hammered out by the following methods:

- 1) Mutual consultation will be made in writing with each other

concerning how to resolve whatever questions might arise regarding the Program.

- 2) Communications concerning this Program should be addressed to the following;

Dr. Ahmed A. Ammar:

Director, Planning and Research  
Department, Suez Canal Authority

Japanese Survey Team (JST)  
for the Technical Cooperation  
to the Economic Planning Unit,  
S.C.A.

C/O Social Development Division, Japan  
International Cooperation Agency (JICA),  
Shinjuku Mitsui Building  
Shinjuku-ku, Tokyo, Japan  
Telex: J 2271

#### 2.4 On Dispatch of Japanese Professional Staff of Japanese Survey Team

The Japanese Survey Team will be dispatched to SCA again prior to submission of a final report, if it is judged necessary and essential for successful completion of the cooperation program of the first year.

#### 2.5 On Training Program in Japan

As frequently referred to, the training programs will be carried out in Japan for three months starting from October of 1978, in connection with this, the following is requested to SCA:

- 1) To ensure that the assignments to be given to the trainees will be faithfully carried out under close supervision of senior staff members of SCA.
- 2) To see to it that other tasks and preparations stated in An Outline of Training Program for the First Year (M-4) will be completed by the trainees before their departure for Japan.

III. Request Made to SCA by JST

It is requested that SCA will promptly forward to JST the data, information, reports and other related materials that are stated in Appendix III. They are judged of considerable importance for successful execution of the training program in Japan, and are requested to be sent to Mr. Satoshi SARO whose address is stated in 2.3 of this memorandum.

IV. On the Results of Self-Training Program

As explained in An Outline of Training Program for the First Year (M-4), it is suggested that the trainees must complete the assignments and self-training tasks, which are to be given to them during the period of August 2nd-8th, prior to their departure for Japan. The specific assignments and tasks are listed in Appendix IV of this memorandum. It is requested that they are to be completed by the trainees under close supervision of SCA and that the results will be presented to JST when the trainees come to Japan in October of 1978.

V. On the Reports, Data and other Information of SCA

It is agreed that JST will receive a full cooperation of SCA in obtaining the reports, data and other information from SCA that are directly related to, or necessary for, execution of the technical cooperation program. However, it is pledged that International Cooperation Agency (JICA) will keep them with care and responsibility on behalf of JST and that they will be regarded as "confidential" and never be disclosed to the third parties not associated with the cooperation project.

VI. On Other Matters

It is agreed that JST will evaluate a report received from SCA entitled as "Queueing & Traffic Simulation in the Suez Canal" written by Samir Mohamed Ibrahim Manour and the result of its assessment will be promptly informed to Dr. Ammar, Director of Planning & Research Department, SCA.

D.R AHMED A. AMMAR  
DIRECTOR,  
PLANNING & RESEARCH DEPARTMENT  
S.C.A.

MR. YASHIHIDE OKUYAMA  
SUPERVISORY COMMITTEE

MR. YOSHIO SATO  
Leader, Japanese Survey Team for  
Technical Cooperation to the Economic  
Planning Unit, S.C.A.



A List of Data, Reports and Other Materials  
Received From SCA

The following data, reports and other materials were received from SCA in connection with JST's works of SCA, and they will be held by Japan International Cooperation Agency (JICA) with care and responsibility, not to be disclosed to anybody who is not directly related to the Technical Cooperation Program.

2.1 Data Reports and Materials Related to Task I

- 1) "Number of Employees by Type of Job in Each Depart." in English, prepared by Managerial Dept., and translated by Mr. Eldissawy.
- 2) "Managerial System of Suez Canal Authority" in Arabic received from Mr. Eldissawy.
- 3) "Suez Canal for Ages" (English) from Mr. Eldissawy
- 4) "Statistical Data" (Arabic), Monthly Circular issued by Statistical Section of PRD and distributed to Chairman and Directors, received from Mr. Hassan, Chief of Statistical Section, PRD.
- 5) "Report Concerning the follow-up of the Execution of Investments for New Projects of SCA and Affiliated Companies, from Jan. 1st to June 30, 1978" (Arabic), received from Mr. Khalek, Deputy Director of Financial Dept.
- 6) "Suez Canal Report, 1966, 1975 and 1976," received from Messrs. Eldissawy and Hassan.
- 7) "Balance Sheet of 1976" and "Income Statement for 1976"

2.2 Data Reports and Materials Related to Task II

- 1) "Declarations Concerning Cargo on Board" received from Statistical Section of PRD.
- 2) "Suez Canal Report, March 1978, May 1978" and "Suez Canal Annual Report, 1978," from Statistical Section of PRD.
- 3) "Bibliography of Books, Magazines & Newspapers" received from Library.
- 4) "Rules of Navigation, Jan., 1977 edition" and "Appendix for Dangerous Cargo" received from Control & Follow-up Office.
- 5) "Circular N°: 427468" received from Control & Follow-up Office.
- 6) "Coopera and Maunsell Report," Vol. 3, March 1977, from PRD.
- 7) "Metra Reports; Main Part and Appendix" from PRD.
- 8) "Sogreah, Report, Vol.1, 2 and 3" received from PRD.
- 9) "Queueing and traffic Simulation in the Suez Canal," written by

**Mr. Maneur, received from Communication Section, Transit  
Department.**

It is requested that the following materials will be sent by registered air mail to Japan Survey Team, c/o Japan International Cooperation Agency by the end of August, 1978 (address of JICA is given in M-5). All of the materials requested are planned to be used as part of training textbook prepared for the training program in Japan.

- 3.1 A detailed description of information flow, between and within Department (s) and the formats used.
- 3.2 Original data of "Ship Sheets" and "Commodity sheets" of the same one week period (any time period available), used as the source data for Suez Canal Report compiled by Statistical Section, PRD.
- 3.3 "Harbour Book" and "Harbour Map" daily recorded by Movement Sections of Port Said and Suez of the same one week period (any time period available).

Brief explanations are provided in the following paragraphs on the information materials requested.

### 3.1 Information Flow and Formats

#### (1) Objectives:

- a. To analyze inter-departmental relations,
- b. To identify information and data flow within SCA, and evaluate what kinds of materials are to be included in Data Handbook.
- c. To use them as part of the training textbook in Japan

#### (2) Nature and Scope of Requests:

- a. Information flow directly related to planning activity, excluding budgeting and implementations thereof.
- b. Information flows between and within the following Dept. and/or Sections:
  - 1) Planning & Research Department  
(Planning Statistical Sections and Research Center)
  - 2) Transit Department  
(Movement Sections of Port Said and Suez, Shipping Contract Section, Control and Movement Office)
  - 3) Engineering Department  
(Project Management Unit, Project Design Section, Committee for studying New Projects of Canal)

- 4) Works Department (Planning and Follow-up Section etc.)  
Procurement Department (Planning and Stores, Technical and Inspection Sections)
- 5) Computer Center
- 6) Planning Committee and Sub-Committees.
- 7) Chairman's Office (Control and Follow-up Section)

c. Description of the information flow; it is requested that the following descriptions are made on information flow:

- 1) Origin, destination and channel of the information
- 2) Contents of information.
- 3) Format used.
- 4) Frequency of information issued.
- 5) Other related problems.

d. It is highly desirable that description of information flow is made by using a matrix and that sample of the information documents are attached.

### 3.2 Original Data "Ship Sheets" and "Commodity Sheets"

#### (1) Objectives

- a. To construct transit forecasting models by using actual data of Suez Canal.
- b. To provide the trainees with exercises of forecasting methods that have practical implications and application problems to Suez Canal.
- c. To prepare training textbook in which actual data of Suez Canal transit trends are used.

#### (2) Nature and Scope of Request

- a. Original data of "Ship Sheets" and "Goods Sheets".
- b. Any one week period available but they must be on the same week.
- c. Original sheets or copies of them.

#### (3) Notes

The data borrowed from SCA will be promptly returned to SCA after they are analyzed in Tokyo.

### 3.3 Harbour Book and Map

#### (1) Objectives

- a. To analyze them in order to formulate methods by which convoy

system will be improved, i.e., improvement of waiting time and congestion situation.

b. To use them as textbook materials of trainees for analysis of transit data compiling and forecasting methods.

(2) Nature and Scope of Request

a. Harbour Book and Map of any one week period.

b. The period must be the same week

(3) Notes:

They will be promptly returned to SCA after use.

It is requested that all trainees will complete the assignments given in this section as self-training program before they come to Japan, and it must be ensured by SCA that the results of the assignments will be brought to Japan with them to be presented to Japan Survey Team.

#### 4.1 Assignments of Mathematics, Statistics and Calculus

Trainees are instructed to use the following textbooks:

- Text-1: Review of Elementary Mathematics, by Barnett Rich, Schaum's Outline Series, McGraw-Hill Co., 1977.
- Text-2: Descriptive and Inferential Statistics: A Contemporary Approach, by Richard P. Runyon, Addison - Wesley Co., 1977.
- Text-3: Calculus: One and Several Variables, by Saturnino L. Salas and Einar Hille, John Wiley & Sons, 1974.

Assignments are given to trainees from these textbooks as indicated below:

##### 1) Mrs. Fatam El Quady

- Text-1: Read carefully Chapter 6 and solve Supplementary problems (pp. 127-132).
- Text-2: Solve all exercises of Chapter 1 and 6 (optionally try to solve chapter Tests).
- Text-3: Solve exercises questions of Section 3.1, Exercise 1-5 (p.81).

##### 2) Miss Waffa Sobhy

- Text-1: Chapter 7, Supplementary Problems (pp.148-152)
- Text-2: Chapter 2 and 7, all exercises (Optionally try to solve chapter tests)
- Text-3: Exercises 1-5 (p.89) of Section 3.2.

##### 3) Mr. Mahmoud Tizk

- Text-1: Chapter 8, Supplementary Problems (pp. 174-181)
- Text-2: Chapter 3 and 8, all exercises (optionally try to solve Chapter Tests).
- Text-3: Exercises 1-5 (p.93) of Section 3.3.

##### 4) Mr. Abdeltawab Haggag

- Text-1: Chapter 11, Supplementary Problems (pp.241-344)
- Text-2: Chapter 4 and 9, all exercises (optionally try to solve Chapter Tests).

Text-3: Exercises 1-5 (p.97) of Section 3.4.

5) Mr. Said Marai

Text-1: Chapter 12, Supplementary Problems (pp.268-275)

Text-2: Chapter 5 and 10, all exercises (optionally try to solve chapter tests).

Text-3: Exercises 1-5 (p.135) of Section 3.12.

#### 4.2 Assignments of Shipping Problems for all Trainees

##### Question 1

Identify major oil producing and consuming countries in the world and analyze their volumes of production and consumption; on the basis of the data obtained, estimate the future oil supply in the world (30 years from now).

##### Question 2

What is percentage of ships which transit Suez Canal in existing world fleet tonnage?

- 1) Use the latest data from Lloyd's Statistical Tables and S.C.A. Reports.
- 2) Show the percentage distribution by type of ship such as oil tanker, bulk carriers etc.

##### Question 3 (\*)

Read all Chapters marked of "Shipping Business" and write a short paper on the subject you choose.

#### 4.3 Assignments of Economics for All Trainees

Read corresponding Chapters of Economics by Paul Samuelson and answer all of the questions of Study Guide To Accompany Samuelson: Economics (by Rommery Robinson) listed below:

Part I Basic Economic Concept and National Income

(\*)Chapter 1: Introduction Problem 1-5 (pp. 15-16)

2: General Problem of Every Economic Society problem 1-11  
(pp.17-20)

4: Supply and Demand Problem 1-6 (pp. 28-29)

8: Economic Role of Government Problem 1-8 (pp.55-57)

Part II Determination of National Income and its fluctuations

Chapter 11: Saving, Consumption and Investment Problem 3, 6 and 7 (pp.79-83)

Chapter 12: Income Determination, the Simple Multiplier Theory Problem  
2, 3 and 4 (pp. 92-93)

(\*13: Income Determination, Fiscal Policy and Inflation Problem  
3 and 4 (p.100)

15: Price and Money

Problem 1, 2 and 5 (pp.111-113)

(\*19: Fiscal Policy and full Employment without Inflation  
Problem 1-5 and 9 (pp.143-147)

Note: The questions marked with asterisk are optional

#### 4.4 Assignment of Datas Survey for Selected Trainees

Problem 1: Choose some of the United Nation's publications and write  
brief comments on what are described in them.

Problem 2: To make lists of magazines and newspapers that are  
distributed within SCA.



**A MEMDRANDUM**

**EXCHANGED BETWEEN DR. AHMED A. AMMAR,  
DIRECTOR OF PLANNING & RESEARCH DEPARTMENT,  
SUEZ CANAL AUTHORITY  
AND MR. YOSHIO SATO, LEADER OF THE JAPANESE  
SURVEY TEAM FOR THE TECHNICAL COOPERATION  
PROGRAM**

**ON SEPTEMBER 29, 1978**

The following understanding was reached between Dr. Ahmed A. Ammar, Director of Planning & Research Department, Suez Canal Authority and Mr. Yoshio Sato, Leader of the Japanese Survey Team for the Technical Cooperation Program to the Planning & Research Department of the SCA.

- (1) Dr. Ammar will acknowledge to all intents what were explained by the Japanese Survey Team members upon the subjects included in "Agenda of Discussion on the Technical Cooperation Program to the Planning & Research Department, Suez Canal Authority," submitted to him by the Japanese Survey Team (JST) on September 29, 1978.
- (2) The Japanese Survey Team will dispatch some of the experts to the SCA in November of 1978 at which time an interim report will be presented to Dr. Ammar on the matters concerning the organization building of the Economic Unit.
- (3) It is agreed that the SCA will expedite its screening procedure for selecting candidates of the Economic Unit's new staff members (four persons in 1979) whose qualifications are specified in the aforementioned Agenda and that interviews will be conducted with them by the Japanese experts either in November of 1978 or in January of 1979 while the Japanese Team is at SCA.
- (4) The SCA will make necessary budgetary and/or administrative preparations for assisting the Japanese Team's works planned to be carried out for the Economic Unit and trainees' assignments and tasks that must be carried out during the period of January-March of 1979.
- (5) Ministry of Transportation, the Government of Japan, will take immediate actions necessary for clarifying procedural problems with regard to its technical cooperation program for the SCA.
- (6) It is planned that the Japanese Government's "Contact Mission" will be sent to the SCA in March of 1979 to discuss with the SCA's officials on the technical cooperation program planned for the Japanese fiscal year of 1979; April of 1979-March of 1980. The official request will be sent to the SCA through diplomatic channel and the Japanese Government will need the official acknowledgement of the SCA in order to send the Government Mission as a matter of formality.

Dr. Ahmed A. AMMAR,  
Director of Planning & Research  
Department of the Suez Canal  
Authority

Mr. Yoshio SATO  
Leader of the Japanese Survey Team for the  
Technical Cooperation Program to Planning &  
Research Department, Suez Canal Authority

**資料 7 (10)****A MEMORANDUM**

**EXCHANGED BETWEEN DR. AHMED A. AMMAR,  
DIRECTOR OF THE PLANNING & RESEARCH DEPARTMENT,  
SUEZ CANAL AUTHORITY  
AND MR. YOSHIO SATO, LEADER OF THE JAPANESE  
SURVEY TEAM FOR THE TECHNICAL COOPERATION PROGRAM  
ON NOVEMBER 25, 1978**

The following understanding was reached between Dr. Ahmed A. Ammar, Director of the Planning and Research Department, Suez Canal Authority and Mr. Yoshio Sato, Leader of the Japanese Survey Team for the Technical Cooperation Program to the Planning and Research Department of the SCA.

I. On Matters Concerning An Interim Report

1. An Interim Report on the study of the organization and function of Economic Unit was submitted and explained to Dr. Ammar by Messrs. Y. Sato and Y. Osada. The report is a partial fulfillment of the technical cooperation program, the program item (1), Study of the Organization, and Function of the "Economic Unit" which was stipulated in Scope of Work of the Technical Cooperation Program for the Planning & Research Department, Suez Canal Authority, that was agreed upon between the SCA and Japan International Cooperation Agency (JICA) in June 1978.
2. The purpose of presenting this interim report to the SCA is; first, to explain to the SCA's management basic principles, and framework of the present technical cooperation program; second, to discuss with the SCA's management on the problems which might have considerable importance to the SCA; and third, to establish mutual agreement and understanding concerning basic goals and procedures according to which the Economic Unit should be developed.
3. On the basis of mutual understanding and agreement which shall be reached between the two parties concerned, a final report will be written and presented to the SCA in March 1979 on the study of the organization and function of the Economic Unit by fully incorporating into final recommendations the wishes, requests, opinions, and judgements that are expressed by SCA's management.
4. Dr. Ammar will fully acknowledge to all intents the statements of the paragraphs (1), (2) and (3) written above.
5. It is agreed that careful consideration will be given to the following amendments and modifications proposed by Dr. Ammar and other SCA officials, and results of the consideration will be fully incorporated in the final report. They are as follows;

- 1) In Figure I-1: Basic Framework of Developing Economic Unit on page 9, "8) Reflection of the needs of other departments" will be added to the VITAL COMPONENTS TO MATERIALIZE BASIC STRATEGY as one of the components.
- 2) In the same figure on page 9 mentioned above, the word "committed" under the heading of IMPLEMENTATION OF STRATEGY will be replaced by "important".
- 3) In Figure I-5: Unit's Function- Areas Connected to Strategic Decision-making on page 26, "Availability of External Fund" under the category, explained in the NOTES, of "Major factor affecting strategic decisions" will be deleted; also deleted are two "bold arrows" from "Availability of External Fund" and "SCA Revenue" under the same category.
- 4) On page 27, the task subject of "Availability of External Fund" for Economic Research Group will be deleted.
- 5) On page 44, in the item 2) for the qualification of Chief, Systems Analysis Group, "Nor over 40 years old" will be amended as "About 40 years old"; also on the same page, in the item 2) for the Chief, Economic Research Group, "Between 30 and 40 years of age" will be amended as "About 40 years old."
- 6) On page 57, the whole paragraph in the middle of the page, starting "It must be pointed out that.....", will be deleted and replaced by the following paragraph;  
"It must be pointed out that these methods and approaches are the salient features of the Japanese Government's cooperation program. The methods recommended here are considered to be more feasible and workable under given condition of the SCA."
- 7) On page 101, in the item (2) the following will be added to the end of the first sentence;  
", and also able to undertake feasibility study for small projects related to the SCA's internal activities."
- 8) On page 102, "Cape route" and "Panama Canal" will be added as the examples shown in the parenthesis in the 9th line from the top of the page.
- 9) The last sentence on page 102 will be modified as follows;  
"first, to understand, analyze and evaluate the feasibility studies

of important projects, and second, to execute by themselves at least some portions of feasibility studies and/or some specific feasibility studies at an appropriate level.

## II. On Matters Regarding the Candidates for the Economic Unit

During the stay of Messrs. Y. Sato and Y. Osada at the SCA in Ismailia from November 21 to 25, 1978, interviews were held with the candidates who were selected by the SCA for the Economic Unit's staff positions, and their names are listed below;

AHMED F.M. KHALED                      MOHAMED MEDHAT HAMED ELMAGHROBY  
AHMED M.M. EL MANAKHLY  
EL SAYED MOH. ABDEL HAMID  
AHMED ELSAYED MABROUK ABD ALLA  
AHMED KACHY ABD EL HADY  
EZZAT GAMAL M ABDELAZIZ

It is agreed that the result of evaluation of the candidates will be forwarded to Dr. Ammar through a diplomatic channel at the earliest possible time.

In addition to the interviews stated above, the following matters have been communicated between Dr. Ammar and Mr. Sato concerning the recruitment of the new staff for the Economic Unit.

In light of the arrangement made by the SCA stated above, JST suggested that the SCA would focus its effort of recruiting the new staff of the Economic Unit on qualified engineers rather than economists, considering the balance between the staff with economic background and the one with engineering background.

## III. On Other Related Matters

In a series of discussion held between Dr. Ammar and Mr. Sato, the following matters have been agreed upon.

1. JICA is to consider to dispatch to the SCA the Final Draft Report two weeks prior to the JST's arrival in the SCA for the explanation of the report.
2. JST will notify the SCA the equipment, such as mini-computer, which is considered to be necessary for the Economic Unit and is to be purchased by the SCA.

3. JST will provide the SCA with the list of published materials to be acquired by the SCA for the use of the Economic Unit.

Dr. Ahmed A. Ammar, Director  
Planning & Research Department  
Suez Canal Authority

Mr. Yoshio Sato, Leader  
Japanese Survey Team for the  
Technical Cooperation Program to the  
Planning & Research Department,  
Suez Canal Authority

資料 7 (11)

ASSIGNMENTS AND INSTRUCTIONS

TO THE ECONOMIC UNIT FOR THE JOB INITIALIZATION

SUBMITTED TO  
PLANNING AND RESEARCH DEPARTMENT  
SUEZ CANAL AUTHORITY  
BY THE JAPANESE SURVEY TEAM  
ON FEBRUARY 20 1979



It is requested that for the purpose of job initialization of the Economic Unit the following actions will be carried out by staff members of the Economic Unit during the period of February - May 1979.

### I. Assignments of Short Analysis Report

Staff members of the Economic Unit are requested to write short analysis reports on the topics assigned to them until the end of May 1979 according to the instructions given below:-

#### (1) Objectives

The objectives of writing the short analysis reports are:

- 1- to learn how to write a research paper through carrying out actual research assignments.
- 2- to apply knowledge and skills into concrete problem solving.
- 3- to acquire research skills and to analyze problems.

#### (2) Format of Reports

In writing a short research paper the staff members are requested to follow the format specifications given below:

- 1- Format is to be a technical research paper
- 2- It should be written in English and clearly typed out.
- 3- The length should be 30-50 pages.
- 4- Full inclusion should be made of tables, charts and graphs etc.
- 5- The reports should be submitted to the Japanese Survey Team when it will arrive at the SCA in May or June 1979.

#### The short Analysis Report Assignment (1)

- (1) Topic: "An Outlook of Oil Demand of the EEC Countries and the U.S.A. in the 1980".
- (2) Assignees: The reports should be written individually by Messrs. Hagag and Hegazi and Miss Sobhy.
- (3) Research Work Required:
  - 1) Review analysis of the research papers and/or reports published on this topic
  - 2) Description of economic trends of each country; e.g. description of main economic indicators, etc.

- 3) Time series and cross sectional comparisons of economic trends and oil consumption patterns
- 4) Visual presentation of the trends in tables, scattered and correlation graphs, etc.
- 5) Computation of GDP elasticity of demand for oil
- 6) Descriptive analysis of the projected oil demand in each country

(4) Reference Materials

- 1) Main Economic Indicators
- 2) Yearbook of National Accounts Statistics - Individual country Data
- 3) BP Statistical Review of the World Economy
- 4) OECD Economic Outlook
- 5) Energy Prospects To 1985
- 6) Textbooks used in the training in Japan
- 7) Other reference deemed necessary

The Short Analysis Report Assignment (2)

- (1) Topic: "The Canala Transit Data Analysis and Short-Term Forecast"
- (2) Assignees: The reports should be written individually by Messrs. Negm, Rizk and Marei.
- (3) Research Work Required
  - 1) Collection of monthly transit data of number of ships, SCNRT, tankers and non-tankers, south and northbounds, leading conditions and goods transited since the reopening of the Canal
  - 2) Making of tables, time series and scattered graphs and other visual methods of presentation of data
  - 3) Descriptive analysis of changes, e.g., growth rates, seasonal changes, percentage changes, etc.
  - 4) Forecast by trend projection (linear regression equation in which time is treated as an independent variable) on the following a) number of ships, b) SCNRT and c) goods tonnage (oil and non-oil)
- (4) Reference Materials: Monthly transit data of the SCA

The Short Analysis Report Assignment (3)

- (1) Topic: "Analysis of VLCC Canal Traffic of 1978"
- (2) Assignees: This report should be written jointly by all members of the Economic Unit

- (3) Research Work Required
- 1) On the basis of the data obtained from Statistical Section, identify the last ports of call of the VLCC tankers of southbound traffic of the Canal on a map
  - 2) Prepare white maps for each month and mark the number of ships paid the last ports of call
  - 3) On the same maps, write a freight index obtained from Norwegian Shipping News Freight Index
  - 4) Make the Canal traffic table on the basis of the data obtained from Statistical section by ship type and corresponding freight index (monthly transit data).  
Ship size classification is as follows;
    - a) 150,000 and over
    - b) 60,000 - 150,000
    - c) 30,000 - 60,000
    - d) below 30,000
  - 5) Read Fearnley & Egers Review 1978 and Fairplay International Review 1978 and make a summary description of tanker trade in 1978
  - 6) Write a short analysis report on the major trends of the Canal traffic of VLCC in 1978

## II: Instructions for Job Initialization

- (1) Procurement of Publications and Other Necessary Sources of Data and Information
  - 1) Procurement of the publications selected from the list of reference supplied to the Economic Unit by JMRI
  - 2) Preparation of storage system filing system and classification system of them
  - 3) Jobs should be assigned to some of the members of the Economic Research and Systems Analysis Groups
- (2) Acquisition of Necessary Office Equipments, Materials and Supplies
  - 1) Book Cases, Filing Cabinets, Blackboard, etc.
  - 2) Dictionaries, Cross Section Sheets, Writing Papers, etc.
  - 3) Notebooks, Binders, etc.
  - 4) Other office and research supplies considered necessary
- (3) Research Work Planning and Control

- 1) Each staff member must write a short research work plan as to how he or she will work on the assignment (see the Job Initialization Text).
- 2) A weekly research work sheet must be prepared and filled out every day, checked and signed by Deputy Director and Director of Planning and Research Department
- 3) It is advised that seminars or discussion meetings should be frequently held and the records must be kept on agendas, main contents of the discussion, problems and decisions, etc.

Additional Assignment To The Economic Unit  
(Supplement To M-9)

III: Reading Assignment and Problem Exercises

- (1) A textbook to be read: Econometrics, by R.J. Wonnacott and T.H. Wonnacott, John Wiley & Sons, Inc. 1970
- (2) Assignness: Every member of the Economic Unit.
- (3) Assignments to be completed:
  1. Read chapter 1 Introduction to Regression (pp. 1-14) and chapter 2 Regression Theory (pp. 15-52)
  2. Solve the following problems:
    - a) 1-1, 1-2, and 1-3 (p.11)
    - b) 2-1, 2-2, 2-3, and 2-4 (° .32-33)
- (4) Remarks:
  1. Those who are new to econometrics may skip to read the sections marked with asterisk and arrow.
  2. Those who are already familiar with econometrics should try to read as many chapters of the Part I as possible.

資料 7 (12)

A MEMORANDUM

EXCHANGED BETWEEN DR. AHMED A. AMMAR  
DIRECTOR OF THE PLANNING & RESEARCH DEPARTMENT,  
SUEZ CANAL AUTHORITY  
AND MR. YOSHIO SATO, LEADER OF THE JAPANESE  
SURVEY TEAM FOR THE TECHNICAL COOPERATION PROGRAM  
ON FEBRUARY 21st, 1979

## Preamble

The Japanese Survey Team (JST) stayed at the Suez Canal Authority (SCA) during the period of February 14th-21st of 1979 to carry out the following tasks:

- 1) Explanation of Draft Final Report on the Study of Organization and Function of "Economic Unit,
- 2) Follow-up actions on the results of the training program in Japan (October - December 1978)
- 3) Instructions and assignments given to the staff members of the Economic Unit,
- 4) Re-evaluation of the new candidates selected for the Economic Unit and their related tasks. This JST's visit to the SCA marks the conclusive phase of the first year technical cooperation program.

On the matters concerning the JST's activities at the SCA, the following understanding was reached between Dr. Ahmed A. Ammar, Director of the Planning & Research Department, Suez Canal Authority and Mr. Yoshio Sato, Leader of the Japanese Survey Team for the technical cooperation program to the Planning & Research Department of the SCA.

1. On the Matters Concerning Draft Final Report on the Study of Organization and Function of "Economic Unit"

The JST Explain to the full the contents of the Draft Final Report to the SCA and opinions were freely exchanged on the technical contents of the report, its phraseology used and other related problems. It was agreed that the Draft Final Report is fully acceptable to the SCA to all intents and purposes.

However, the following modifications were agreed to be made:

- 1.1 The first five sentences of (6), paragraph 14 of Conclusion, starting with "For several years....," "should be replaced by the following sentences; "For the first step of the operation of the Economic Unit, a large scale computer system may not be used as an information data base. However, for the analysis of transit, traffic forecast, financial analysis and other types of systems analysis problems, computerized system of analysis of adequate level will be planned to be used"

- 1.2 The third sentence from the bottom of the paragraph 1.15 of Summary of Part I on the page (20), " which totals 16 staff members by the end of March, 1978" should be read as " which totals 14 staff members by the end of March, 1981".
- 1.3 The first two sentences of the paragraph 5.15 (page 115 of the main body) should be changed into the following; "total days and lecture hours allocated to the training in Japan were 60 days (270 hours)".
- 1.4 In table II-7: Training Curriculum Organization, allocation of hours should be changed as follows; 10 days for No. 1 curriculum (instead of 11 days) and 15 days for No. 2 curriculum (instead of 18 days), and indication of the hours for all curricula and days and hours for extra-curricula activities should all be erased from the table.
- 1.5 The JST is entrusted by the SCA to make other necessary changes and/or corrections as the words, phraseologies, and sentences so long as they are intended to clarify the meanings of sentences.

## 2. Evaluation of the Technical Training Program in Japan (October-December 1978)

The JST presented to the SCA its evaluation report on the results of the training in Japan including performance evaluation of the individual participants. It was a mutual understanding that the first year training program in Japan was successfully completed with intended results and that the participants will be able to develop further their research capabilities if they are given a continuous and proper training program.

## 3. Evaluation of the New Candidates for the Economic Unit

During the JST's stay at the SCA, six new candidates selected for the Economic Unit by the SCA were re-evaluated in respect to their general research capabilities, knowledge and aptitude. The re-evaluation was made by two methods; i.e., interviews held in depth with the individuals and written examination commonly given to them. The results of the evaluation thereof will be informed to the SCA in due course through an official channel of communication.

#### 4. Follow-up Actions, Consultations and Preparations for Job Initialization

In the hope that the Economic Units work will gradually be put into shape and became operational, members of the JST utilized their stay at the SCA to the fullest extent possible to carry out the following tasks:

- 1) Evaluation of the assignments previously given to the participants,
- 2) Review lectures on selected topics,
- 3) Instructions on necessary preparations for the job initialization,
- 4) Research work assignments that must be completed before the JST's arrival at the SCA for the second year training (The Japanese fiscal year 1979, April 1979-March 1980).

It was a mutually shared conviction that these actions taken by the JST will contribute a great deal to progressive and smooth effectuation of the Economic Unit's work. The following are the specific measures taken by the JST at the SCA:

- 4.1 Question and answer sessions were held on the previously given assignments which required further explanations. The assignments completed by the staff members will be evaluated and the results will be reported to the SCA in due time.
- 4.2 The review lectures were held on selected topics of the training program subjects which were taught in Japan to ensure that they would fully understand some of the important and technical details of concepts and methodologies.
- 4.3 For the purpose of preparing for the job initialization of the Economic Unit, a set of assignments and instructions were given to the staff members. The detailed explanation is given in "Assignments and Instructions to the Economic Unit for the Job initialization (M-9)." They are briefly stated as follows:
  - 1) Short analysis reports which should be written individually by all members of the Economic Unit.
  - 2) A research report that must be jointly worked on by all members.
  - 3) Problem excersises of introductory econometrics to be solved by all.
  - 4) Immediate actions that must be taken to procure publications and other research materials necessary for the Economic Unit's work.



- 5) Consideration of office equipments, stationaries, and supplies needed for the Economic Unit, in particular, immediate acquisition of proper blackboards.
- 6) Research work plans to be individually drawn up for their respective assignments.
- 7) A weekly research work progress report to be individually prepared and submitted.

#### 5. Other Understandings Reached Between The SCA and JST

- 5.1 The SCA expressed its wish that the technical training program of the second year (the Japanese fiscal year 1979) will be of continuous nature and became enlarged in its scope to effectively meet with progressively expanding needs of the Economic Unit, viz-, the training program in Japan and on- the- job training program at the SCA to be given by the Japanese consultants and experts should become tailored to specific training needs of the staff members.
- 5.2 The SCA also stated its desire that the Japanese consultants will continuously stay at the SCA as long as possible to ensure that the training process will not be interrupted and the results will be productively brought into play in actual operations of the Economic Unit.  
  
If this is deemed not possible for some reasons, other measures must be taken to assure that the continuous training will be provided to the Economic Unit's staff.
- 5.3 The textbooks prepared for the training program in Japan are judged to be of considerable value as reference materials for the Economic Unit. The SCA wishes that they will be delivered at the earliest convenient time.
- 5.4 It was mutually agreed that the following will be included in the training program of the next stages.
  - 1) Risk analysis of the Canal operations
  - 2) Case studies of the feasibility study of the Canal expansion project including the study made by TECNAVAL.
- 5.5 Realizing that computer programming techniques need to be quickly acquired by those of the staff specializing in the systems analysis problems, the SCA agreed that some of them will be given opportunities to receive the

training in computer programming in Egypt at the earliest possible time.

Dr. Ahmed A. Ammar  
Director of the Planning &  
Research Department,  
Suez Canal Authority.

Mr. Yoshio Sato  
Leader of the Japanese Survey  
Team for the Technical Cooperation  
Program to the Planning & Research  
Department, Suez Canal Authority.

付録Ⅱ

エジプト・アラブ共和国スエズ運河行に対する

技術協力の実績調



1 調査団の派遣

1958 新妻調査団

1960 柳沢調査団

1974 原口調査団 (1974.1.30～1975.2.25 スエズ運河拡張計画調査)

総括	原口好郎	運輸省第三港湾建設局長
計画班(操船)	児玉正作	" 航海訓練所航海科長
(航路計画)	小合彬生	" 第五港湾清水港工事事務所長
技術班(浚渫・土質)	徳水省三	" 港湾局建設課検査官
(作業船)	大藪雅夫	" 第二港湾横浜機械整備事務所長
(水理・水工)	村田繁	" 第三港湾神戸港第三工事係長
経済班(港湾経済)	中山靖之	" 第五港湾設計室建設専門官
(経済分析)	橋川隆	海外経済協力基金課長代理
(財務分析)	桜井敏浩	"
業務調整	高瀬実	国際協力事業団技術参事

1977 青山調査団 (1977.7.11～1977.7.24 スエズ運河計画部門に対する技術協力計画調査：予備調査)

総括	青山正幸	運輸省第一港湾建設局長
土質	松並仁茂	" 港湾技術研土質部長
水工	合田良実	" 港湾技術研波浪研究室長
計画	惣谷賢	(財)国際臨海開発研究センター主任研究員

1977

大野調査団 (1977.7.12.4~12.18 スエズ運河拡張事業関連インフラ調査)

総括 大野正夫 国際協力事業団社会開発協力部長  
 計画 柴谷昭夫 (財)国際臨海開発研究センター  
 工事 伊吹彦 ㈱日本港湾コンサルタンツ  
 業務調整 坂本俊雄 国際協力事業団

1978

石月調査団 (1978.3.10~3.26 スエズ運河行計画部門に対する技術協力計画調査)

: 事前調査)

総括 石月昭二 運輸省港湾局参事官  
 計画・システム分析 長尾義三 京大工学部教授  
 海上運需要予測 三島久 運輸省海運局外航課  
 海上交通計画 井上聰史 " 港務局計画課  
 海上運経済分析 徳田 兼 (財)海運産業研究所  
 業務調整 西島浩之 国際協力事業団

1978

佐藤調査団 (スエズ運河行計画部門に対する技術協力計画調査 : 本格調査)

※1978.7.14~8.12 現地調査 下記メンバー  
 1978.1.18~1.28 中間報告 佐藤、長田  
 1979.2.11~2.24 最終案報告 佐藤、長田、杉野、稲葉、青木、秋庭

総括 佐藤 碩 男 ㈱三菱総合研究所  
 組織業務調査 長田 好 生 "  
 " 西 村 務 "

組	織	業	務	調	査	倉	科	敏	材	機三菱総合研究所
シ	ス	テ	ム	ム	析	森	杉	寿	芳	"
	"	"	"	"	"	膏	木	洋	一	"
研	"	"	"	修	"	秋	庭	克	己	(財)海事産業研究所
(	隨	行)				高	村	三	郎	"
						杉	野		昇	機三菱総合研究所
						稻	栗	守	満	"

現	地	作	業	監	理	長	友	文	昭	運輸省第四港建下関調査設計事務所長
"	"	"	"	"	"	吳	山	育	英	" 港湾技術システム研究室長
"	"	"	"	"	"	井	上	聰	史	" 港湾局計画課補佐官

1979 原口調査団 (1979.3.4~3.17 スエズ運河庁計画部門に対する技術協力 : 年次協議)

総	括	原	口	好	郎	阪神外貿埠頭公団理事
年	次	協	議	田	孝	国際協力事業団社会開発協力部長
シ	ス	テ	ム	分	析	運輸省港湾技術システム研究室長
経	営	管	計	面	談	" 第三港建企面談長
業	務	調	整	原	孝	国際協力事業団

2. 専門家派遣

1960.9.5~	倉田進	運輸省	選技研	選技研	港灣土質室長	外務省技協委託
1960.10.10~	石井 丸	"	"	"	港灣土質部長	"
1961.2.25~	木内 政	"	港灣局	機材課	補佐官	"
"	日下 宏	"	第三港建	神戸港	次長	"
1961.10.12~	鶴田千里	"	選技研	選技研	港灣水工部長	"
1961.10.1~	林 聰	"	"	"	振動研究室長	"
1963.3.5~	森本 茂	"	港灣局	港灣局	首席港灣工事検査官	中近東・ アフリカ計画
1963.3.5~	伊藤 喜行	"	港灣技研	港灣技研	防波堤研究室長	"
1964.3.26~	原口好郎	"	第二港建	第二港建	横浜調査設計事務所長	"
1964.9.10~	西村俊之	"	港灣局	機材課	補佐官	"
1964.9.10~	佐藤 昭二	"	港灣技研	港灣技研	漂砂研究室長	"
1966.3.23~	曾山正幸	"	港灣局	機材課	補佐官	OTCA
"	奥山文雄	"	第四港建	小倉調設		"
1966.6.23~	栗栖 義明	"	港灣局	港灣局	技術参事官	アラブ連合
1977.2.7~	鈴木 禎	"	第四港建	字部港	所長	JICA
1978.4.13~	梅原 靖文	"	港灣技研	港灣技研	動土質研究室長	"
"	堀江 毅	"	"	"	海水浄化研究室長	"



3. 研修員受入

A. 港湾セミナー

第2回	Mr. Gamel El Shafey	( 39 )
第3回	Mr. Tag. El-Din Abdel Gawad	( 32 )
第5回	Mr. Mohamed Bahaa El-Din El-Sayed	( 39 )
第6回	Mr. Farouk Mohamed Nady Abu-Taleb	( 29 )
第7回	Mr. Soliman Hamdy Soliman	( 38 )
第8回	Mr. Esam El-Din Aly Mohamed	( 35 )
第18回	Mr. Bonyamin Attalla Boulos	( 33 )
	Mr. Adel Fahni Md. El-Sofani	( 42 )

B. 港湾工学コース

第2回	Mr. Kamel Yousef Shalaby	( 52 )
第3回	Mr. Said Ahmed Shash	( 38 )
第4回	Mr. Yehia Hossein Mohamed	( 41 )
第5回	Mr. Aly Abdel-Haleem El-Shahamy	( 37 )
第6回	Mr. Mohamed Kamel Sabek	( 40 )
	Mr. Ahmed Mohamed Sery Khater	( 35 )
	Mr. Mohamed Wafi Sayed Ahmed Ghorab	( 42 )

第7回	(1970. 8. 1~11.30)	Mr. Mohamed Hirshim El-Kersh	(32)
第14回	(1977. 8.15~12.17)	Mr. Moustafa Mohamed Ibrahim Hussein	(29)
第15回	(1978. 8.17~12.16)	Mr. Mokhameer Tohamy Mohamed	(39)
第16回	(1979. 5. 3~ 9. 8)	Mr. Mohamed Aly El-Khouly	(33)

C. 上級港湾技術者コース

第2回	(1978. 7. 1~ 8. 1)	Mr. Mohammed Bahaa El-Din El-Sayed	(52)
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D. 個別研修(1970年度以降)

1970.10.19~	12.18	Mr. Ahmed Auf Hamada	
"	"	Mr. Aly Abd El Aziz Ibrahim	
"	"	Mr. Hosny Abdel Galil	
1977. 8.29~	12.24	Mr. Fouad Hosni Hassan	
1977.10.18~	78. 1.31	Mr. Youhanna Salib Sourial	
1978. 9. ~	10. 1	Dr. A. Ammar	
1978. 9.25~	12.27	Mr. Ramadan Mahmoud Hegazi	
		Mr. Reda Abo-Bakr Negm	
		Mr. Abdel Tawab Abdellatif Hagag	
		Mr. El-Sayed Mahmoud Marei	
		Mr. Mahmoud Ahmed Rizk	
		Miss Wafaa Sobhy Ibrahim	

(参考) 在カイロ日本大使館アタッシェ

1961. 1.23~65. 8. 1	太田尾	広	治
1965. 9. 1~69. 4. 1	大野	正	夫
1976. 3. 1~79. 5. 29	菅木	義	典
1979. 4.14~	木原		力



付録Ⅱ

エジプト・アラブ共和国 スエズ運河のプロジェクトの経緯等

★ 1～3については、1977年の外務省資料より引用した。



## 1 スエズ運河小史

スエズ地峽の交通の要所としての重要性は、古代エジプトの時代から関心が寄せられており、運河の歴史は紀元前2,000年代のファラオの時代に遡ることが出来るとの説がある。当時のナイル河の派川は現在よりもはるかに東方に伸びており、これを利用して紅海と水路で結んでいた。水路の目的は単なる航路としてだけでなく、灌漑用の運河でもあったと言われている。

ナイル河の派川を利用した運河は、河川の流下土砂によりしばしば埋没し利用不能となることが多かった。時には埋没した運河がそのまま放置され荒廃していったようである。歳月を経るとまた、時の支配者が新たな運河を計画し建設するということを繰返していた。運河建設事業として記録に残されている有名なものは、紀元前6世紀のネコ王(前609~583)とこれを引継いだダリウス王(前521~486)の事業、プトレミー1世(前323~285)及び同Ⅱ世(前309~246)の事業、トラヤヌス・ローマ皇帝(98~117)の事業及び7世紀のカリフ・オマールの事業などが挙げられる。

カリフ、アル・マンスール(754~775)は戦略上の理由から767年スエズ運河を閉鎖したが、その後の11世紀間レセップスによって現在の運河が建設されるまで、二度とこの地に運河が建設されることはなかった。

1798年ナポレオン1世に同行したフランスの技術者達は運河開削を目的として調査を行なっている。1799年末にまとめられたル・ベールの調査は、一つの有名な誤りのため後々までスエズ運河開削計画の障害となった。即ち紅海の水位は地中海のそれより約10m高いと言っているものである。

よく知られている通り、現在の運河はフランス人レセップスによって建設されたものである。レセップスが最初に運河開削を思いついたのは、1832年27才の時である。当初多くの妨害にもあったが、当時のエジプト総督であったモハメッド・サイード・パシャの協力を得ることが出来、エジプト政府から利権を獲得し、万国スエズ運河会社を設立した。一方技術的な準備・計画のため、スエズ運河研究学会や国際技術委員会を設けて国際的に技術力の動員を行った。また1847年にはブ・ダロンの調査によってそれまで広く信じられていた紅海と地中海に大きな水位差があるという誤った考え方は改められ、その水位差は無視できる程度であることも明らかとなった。レセップスが思い立ってから27年後の1859年4月25日運河開削が着工されることとなった。工事は10年半の歳月を要したが、1869年11月17日正式にスエズ運河は開通した。この時の運河の規模は水深8m、底巾22m、水面での幅員

58 m、そして10 km毎に延長300~500 m、幅5 mの待避所が設けられているものであった。

その後100年間にわたり表1の通り10次にわたる改良計画がたてられ、それに基づいて改良工事を行なって来た結果が現在の運河である。

1956年7月26日ナセル大統領は、運河の国有化を宣言した。問題は国連に持込まれることになったが、まもなくイスラエル軍の進撃と英仏連合軍のスエズ進駐があり、11月1日スエズ運河は閉鎖のやむなきに至った。しかし、国連総会の決議により全ての外国軍の撤退と国連監視軍の設置が決定されて、1957年4月9日、6か月間の閉鎖の後再開され運河は完全にエジプトのものとなり運河庁によって管理運営されることとなった。

1967年6月第3次中東戦争が勃発し、スエズ運河東岸までイスラエル軍に占領されることとなって運河は閉鎖された。1973年10月、第4次中東戦争の結果としてのシナイ協定によりエジプトは運河東岸に失地を回復することが出来て、運河も閉鎖以来8年ぶりに再開することができた。(1975年6月再開)

## 2 スエズ運河現況

スエズ運河の延長は次の通りである。

Post Said 港灯台—スエズ港	162.5 km
Post Said 側進入航路	11.0 km
Suez 側進入航路	4.0 km
計	177.5 km

この間 Great Bitter Lake, Little Bitter Lake 内の区間が合わせて40 kmある。本運河には開門は一切ない。

幅員は次の通りである。

水面	180~200 m
航路を表わすブイ間(-11 m点)	89 m

水深は15.0 mで通航可能船舶の最大吃水は11.4 mとなっている。具体的には凡そ

満載状態のタンカー	60,000 DWT
バラスト状態のタンカー	230,000 DWT (実績)

本運河はBitler湖内及びBallah地区に複線区間が設けられているが、基本的には一方通航である。通航管理はコンボイ方式をとっている。南行船舶はPort Said、北行船舶はSuezの各々泊地において、船種・船型を考慮した船団に組み込まれる。



表一1 スエズ運河改良計画の推移

年 代	計 画 名 等	水 深 m	幅 員 m	備 考
1869	当 初	8.0	(底) 22	10km毎に300~500mの待避所
1876	第1次改良計画			待避所の延長と増設等
1884	第2次改良計画 (同施工実施)	9.0	(底) 37	全線複線化
1901	第3次改良計画	9.5		待避所11ヶ所増設
1906	同 改良計画	10.5		
1908	第4次改良計画	11.0	(-10m) 45	
1912	第5次改良計画	12.0	(-10m) 60	
1921	第6次改良計画			
1948	第7次改良計画	12.5		Ballah By-Pass
1954	第8次改良計画	14.6	(-11m) 80	Timsah 錨地の1.2m増深 Port Said, Kabret By-Pass
1957	同 修正計画	15.5		38,000DWT 級対象
1959	新 規 計 画	16.5		45,000DWT 級対象
	うち1963年目標部分	15.0	(-11m) 90~100	65,000DWT 級、喫水1.23m対象 喫水1.1m対象、断面積1,850m <sup>2</sup>
1966	ナ セ ル 計 画	23.0		260,000DWT 級、喫水20.1m対象

石油を満載したタンカーを多く含んでいる北行船団は1日1船団とし、ノンストップで運河を通航させる。他方南行船団は2船団に分け、第1船団はBitter湖内で、第2船団はBallahの複線区間で北行船団を待避するよう計画されている。

船団の運航は、航行速度と時間間隔を管理しており、速度は運河の区間及び船種・船型によって異なるが、11~14km/時運航時間間隔も船種・船型によって異なるが、一般の船舶は5~6分、大型タンカーは20分程度としている。

本運河の通航容量は、複線区間の延長によって決定される。現行のコンボイ方式によると、通航船舶の大きさにもよるが、概ね1日往復で80隻前後であろう。

運河通航料は次のように定められている。支払は当該船舶のPort Said又はSuez致着前に海外より外貨で指定銀行口座に振り込まなければならない。

(1) 原油・石油製品タンカー、鉄石等専用船

1611SDR/スエズ運河総トン(SCNRT)

(2) (1)以外の載荷状態の船舶

1772SDR/SCNRT

(3) 全ての空船

1289SDR/SCNRT

例えば、1SDR=115US\$とし、タンカー1DWT=0.55SCNRTとすれば、載荷状態でタンカーの通航料は約1US\$/1DWTとなる。

スエズ運河は紅海を經由してインド洋と地中海を結ぶ重要な航路の一環となっている。代替航路は南アのケープタウン経由になり、これを比較するとスエズ運河経由の場合、下記の通り大巾な航路の短縮となる。

オデッサ	—	ボンベイ	75%短縮
ベルシャ湾	—	ジェノア	57%#
#	—	ロッテルダム	42%#
#	—	ニューヨーク	30%#
横浜	—	ロンドン	25%#

### 3 スエズ運河庁

運河庁(Suez Canal Authority)は、運河庁の定款に関する法律、(1956年法律第146号)に基づき、1957年7月に設立された。

運河庁の人格は、万国スエズ運河会社の国有化に関する法律、(1956年法律第285号)第2条に次のように表わされている。

「スエズ運河の運営は独立の機関が行なう。この機関は法人格を持ち、共和国大統領

の告示を以って設立され、政府規則の拘束を受けることなく、運河の管理に必要な一切の権限が与えられる。この機関は商企業上の原則に基づいて作成される独立の予算を持つ。但し、年度末の貸借対照表は国の会計検査に服するものとする。」

運河庁は独自の予算を持ち、独立した公益法人であって、一般の公企業、民間企業に適用される政府の規則には、必ずしも拘束されず大きな権限が与えられている。現在の行政組織では運河庁は内閣官房長官 (Minister of State for the Cabinet Affairs) の監督下にあるが、実態は首相の直接指揮を受けている。

運河庁の運営方針は大統領の任命する総裁と9名の理事によって構成される理事会で決定される。総裁は専務理事でもある。各理事は部長として担当業務を持っている。この他総裁を補佐する部門として、法律、技術及び広報の3部門の総裁直属機関がある。

現在の職員数は概ね11,500名で、この中には215名のパイロット50名のタグボート船長を含み、8割以上が単純労務者である。

運河庁は、運河管理運営の他に運河沿いの Port Said, Ismailia, Suez 地域の上水道施設の管理・運営、運河横断フェリーボートの運航、学校、病院の運営の他多くの関連企業を監督する立場にある。

#### 4 第I期拡張工事等の経緯

1961.8~1963.12

五洋建設、スエズ運河浚渫 (5,600千㎡)、護岸 (13km) 工事施工  
21億円 (世銀融資)

1964.5~1965.11

五洋建設、スエズ運河浚渫 (1,631千㎡) 工事施工9.3億円 (アラブ経済開発クウェート基金融資)

1965.12~1967.4

五洋建設、スエズ運河浚渫 (560千㎡) 工事施工5.8億円 (アラブ経済開発クウェート基金融資)

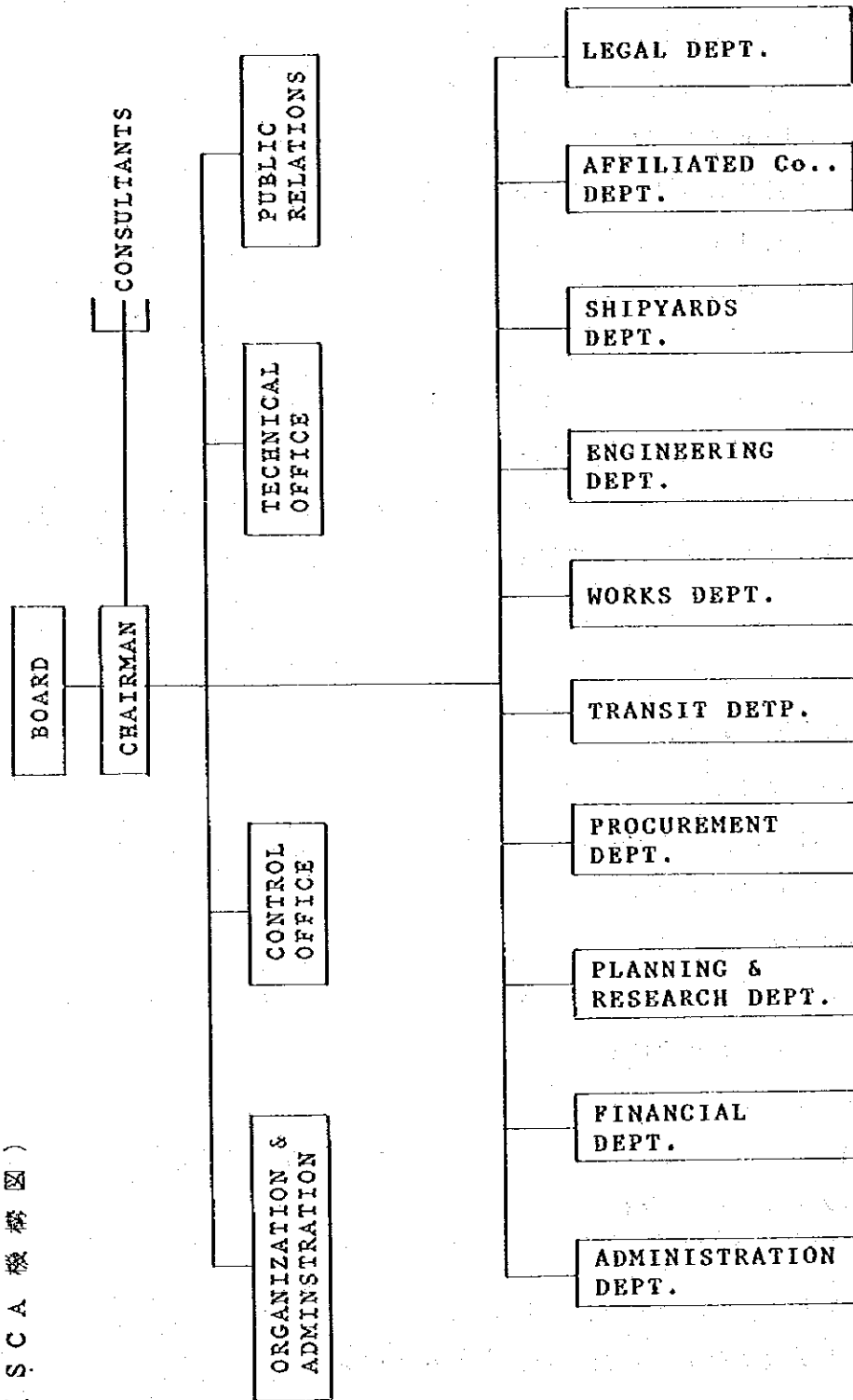
1967.6

五洋建設、スエズ運河増深拡張工事一番札 (137.8億円)  
同月中東戦争勃発、運河閉鎖につき発注延期

1973.10

中東戦争沈静化の方向

( S C A 機 構 図 )



エジプト側本件について五洋建設より事情聴取

1973.12.18

三木特使、スエズ運河改修に280百万U.S.\$(760億円)円借款供与を協議し、第一期工事について140百万U.S.\$(380億円)の円借款を約束した。

1974.2

ハータム副首相が来日、380億円の円借款を再確認。

1974.6

スエズ運河庁が、パンフィック・コンサルタントに対し、運河料金断面決定のF/Sについてプロポーザル提出を要請(のち、この件受注)

1974.10.15

五洋建設 Letter of Intent 受領

1974.11.30~12.25

F/Sミッション(JICA、OECEP合同)派遣

1974.12.5

五洋建設 スエズ運河庁との間で本工事(A、B、C工区)の正式契約

1975.1

F/S調査団によるスエズ運河拡張工事調査報告書要約版まとまる。

1975.4.16

総額380億円の交換公文締結

償還期間 : 7年据置 25年

利子率 : 年 2%

支払期限 : 1980.4.15

1975.5.3~5.19

OECEP L/A締結準備のため現地に人を派遣

1975.6.5

スエズ運河再開

式典に運輸省次官、船主協会副会長が出席

1975.7.25~8.4

L/A調印のためスエズ運河庁のマシュール総裁来日

(7/26 L/A調印締結)

所要資金	345,750百万円(1US\$=¥300)
うち外貨	192,000
うち内貨	153,750
基金融資額	38,000
うち外貨	38,000
金    利	2.0%
償還期間	25年(うち据置7年)
調    達	タイド
使用期限	1980.4

訪日メンバー (5名)

Mashhour Ahmed Mashhour (マッシュール総裁)

同 夫 人

Ezzat Adel (アデル技術部長)

同 夫 人

Mohammed Atif Mohammed El-Sadek (エル・サデック総裁秘書)

1976.2.4

工 事 着 工

1976.11.10

五洋建設は第1期拡張計画のうちE、G工区の工事を新たに受注

1976.11

日本政府に追加借款を要請

1977.8.19

240億円の追加借款をブレッジ

1977.9.19~

OECD アブレイザル・ミッションを派遣

1977.11.5

交換公文(E/N) 締結

1977.12.15

貸付契約(L/A) 締結

基金融資額	23,000百万円
金    利	3.5%
償還期間	25年(うち据置7年)
調    達	タイド

5. 第一期拡張計画フィジビリティ・スタディの調査指針 ( T O R )  
SUEZ CANAL AUTHORITY  
A.R.E.  
2/4/1-91  
Ismailia, 16/3/1975

H.E. Ambassador of Japan  
Japanese Embassy - Cairo

Dear Sir,

We have the pleasure to enclose our terms of reference for feasibility study of the development of Suez Canal.

On the basis of close cooperation and good relations between the Suez Canal and many Japanese organizations, we hope that it will be possible for the O.T.C.A. to undertake this assignment free of charge.

We would appreciate receiving a notification from your Excellency or from O.T.C.A. to that effect at their earliest convenience.

Assuring you of my highest consideration,

I remain Dear Sir,

Yours truly

Eng. M. A. Mashhour  
CHAIRMAN AND MANAGING DIRECTOR

Ismailia. 1975

Feasibility Study of the  
Development of the Suez Canal

Dear Sir,

The Suez Canal Authority had carried a study to develop the Canal in order to allow tankers up to 260,000 D.W.T. to transit the Canal fully loaded with a maximum draught of 67' and more than that partially loaded and in ballast.

These dimensions were the optimum at that time.

Due to rapid increase in size and number of mammoth tankers in command and the desire of the Suez Canal Authority to develop the Canal in order to satisfy the need of world oil and dry cargo trade.

The Suez Canal Authority has decided to invite, for a study to asses the economic and technical feasibility of such a project, consultants to carry out the study based on attached terms of reference.

Yours Sincerely

DIRECTOR OF ENGINEERING DEPT.

(Eng. M. EZZAT ADEL)



Terms of reference for a feasibility  
study of the development of Suez Canal

PREAMBLE

The Suez Canal Authority (S.C.A.) intends to have a study carried out to determine the optimum cross-section dimensions, phacing of enlargement and draught of Suez Canal to accomodate most the fleet of world mammoth tankers.

The present dimensions of Suez Canal allow transit of tankers up to 60,000 T.D.W. fully loaded, up to 100,000 T.D.W. partially loaded and more than 100,000 T.D.W. and up to 150,000 T.D.W. in ballast.

Consultants are required to submit before the March 25th 1975 a próposal, based on attached scope of work from both technical and economical point of views.

Consultants are required to submit:

- 1) an assessment substantiated by adequate evidence that there are fully independent from any shipping organization or oil companies;
- 2) a detailed list of experience with comparable assignments;
- 3) explaining in detail the arrangements they propose for carrying out the work on the following sections:
  - crude oil and oil products supply and demand
  - oil and oil products movement
  - analysis the cost of achievement the project of development of Suez Canal.
- 4) a detailed C.V. of the experts proposed to be employed on the study;
- 5) a work plan including a manpower schedule and time required to complete the study;
- 6) a proposed cost for the study based on manpower requirements and other relevant costs.

Suez Canal Authority may select one or several consultants who would work independently, however Suez Canal Authority undertakes to treat all information and background material confidentially.

II- SCOPE OF THE ECONOMIC STUDY

A- GENERAL

The Consultant will;

- 1) Analyse the future world market for crude oil and oil products until

the year 2000 and will present one or several models for oil products supply and demand based on different assumptions of economic development in consuming and producing countries.

- 2) Derive from the above analysis the most likely supply/demand pattern (S) and estimate the world requirements in terms of sea transportation for routes would be affected by the expansion of the Canal.
- 3) Analyse the cost of expanding the Canal beyond its present dimensions under various alternatives (stage construction) and the possibility of accepting larger ships at different stages of construction.
- 4) Carry out a cost/benefit analysis based on the discounted case flow method (S.C.F.) on the basis of various level of dues.
- 5) Carry out a analysis to test the feasibility of the project against:
  - a) changes in the project cost
  - b) change in oil supply/demand
  - c) changes in the timing of the project
- 6) Make recommendations as to the optimum size and timing of the expansion.

The study is expected to take about six months.

#### B- CRUDE OIL AND OIL PRODUCTS SUPPLY AND DEMAND

Based on recent studies and on its own experience the consultant will:

- 1) Project the world demand for crude oil and oil products until the year 2000. Demand projections should be given by main consuming areas selected according to their location vis-à-vis the Suez Canal, under various assumptions of economic growth.
- 2) Prepare supply demand models based on possible developments in producing and consuming countries.

Supply and demand forecasts, should be given annually between 1975 and 1985 and by period of 5 years there after, until 2000. The Consultant shall also the degree of confidence for the projection at the end of each period of 5 years.

#### C- OIL AND OIL PRODUCTS MOVEMENTS

Based on the above and on the projected development of crude oil and oil products transportation by other modes and/or routes, the consultants shall propose one or several models of crude oil products movements by sea on the routes which would be affected by the expansion of the Suez Canal. For each route the consultant will attempt to estimate the likely size.

distribution of tankers, annually for the years 1975 to 1985 and by period of 5 years thereafter, until 2000. This estimate (S) shall be based on likely development in oil producing and refining capacities as well as in part facilities in producing and consuming countries.

D- ANALYSIS OF COST

The Consultant will review the proposal for expending the Canal and its costs estimate prepared by Suez Canal Authority and shall study possible stage construction and estimate the cost of each component in order to obtain an accuracy of about 20% of each of the major items (twice contingencies excluded). The consultant will also identify the areas where costs are likely to vary substantially during the construction period. The consultant shall prepare, with the assistance of Suez Canal Authority, a yearly schedule of expenditures.

E- COST BENEFIT ANALYSIS

For each cost and supply demand alternative the consultant shall calculate the economic rate of return of the project by the method of discounted cash flow or any other known method.

F- SENSITIVITY ANALYSIS

Same as (A5)

G- RECOMMENDATIONS

Same as (A6)

### III- SCOPE OF THE TECHNICAL STUDY

A- GENERAL

In order to study the optimum cross-section of the Canal from technical point of view, the Consultant can divide his work into two steps:

Step One

- a) Forecast of the most probable future traffic trends in the worlds, oil tanker and dry cargo ships.
- b) Determination and forecast of expected future transit tabulated by ship size.
- c) Estimation of the expected annual income in function of different depths of the Canal.

- d) Estimation of the annual Canal operating costs  
(including sitting and maintenance of revetments).

Step Two

- a) Study of the Standard Canal cross-section and the annexed works by different permissible draughts:  
48' 53' 60' 67' 72' 80'
- b) Estimation of the project cost relating to the above proposed draughts.

B- DESIGN OF THE IMPROVES CANAL

1) Design of cross- ections

Assuming that the Canal is developed to six different permissible draughts:

48' 53' 60' 67' 72' 80'

and others if necessary, the annual average (total construction cost, depreciation, redemption, capital interest, maintenance and administration expenses) and the annual average income from the Canal, will be compared for each water depth to estimate the maximum income water depth.

The cincome and expenses calculation will be carried out for different cases for the following assumption for needed investment:

- 20% of the total investment will be paid by the S.C.A.
- 80% of the total investment will be obtained at an average interest of 6% per annum.

The redemption period will be more than 20 years.

When the maximum income water depth is determined the tender can recommend as optimum cross-section a unified cross-section all over the Canal length or more than one cross-section according to the neture of soil (soft soil, sand, compact soilt). Also the approach channels of Port-Said and Suez should also be taken into consideration in the study.

However, the recommended cross-section must take into consideration the observation of the existing cross-section of the Suez Canal.

This study should be carried out by experts in soil, hydrology, hydraulics and inland navigation.

Reduced and/or mathematical models should be carried out whenever necessary.

- 2) Design of the optimum length and height at the existing submerged western breakwater and the proposed new eastern breakwater

The existing western breakwater should be lengthened as submerged breakwater and a new breakwater should be constructed on the east side of Port Fouad so as to reduce siltation in the entrance channel. The phenomenon of littoral drift and siltation should be studied.

The effect of the proposed breakwater on the near coast and the effect of the passage of ships on the channel must be forecasted.

C- SINGLE AND MULTI STAGE CONSTRUCTION

The consultant has to recommend the following:

- a) Advantages and disadvantages of multi and single stage construction
- b) Reasonable construction period

D- OUTLINE OF THE TRAFFIC CONTROL SYSTEM

Recommendation will be made concerning the traffic schedule and control system required when the Canal is developed to the planned scale, in order to obtain the maximum capacity of the Canal with maximum security of navigation.

The studies will be carried out by experts in mammoth tankers navigation especially in restricted shallow water.

The study includes:

- a) best system of convoy including speed and intervals between tankers.
- b) preventive measures against accidents of tankers in transit through the Canal.

E- COST OF THE DEVELOPMENT PROJECT

The study of the breakwater and the cross-section will be proposed for the admissible draughts:

48' 50' 60' 67' 72' 80'

The following conditions will have to be met in designing the standard cross-section in order to calculate the construction cost:

NUMBER OF STANDERD CROSS-SECTION

AS EXPLAINED BEFORE

Slopes

The slopes are to be adopted according to the soil nature and depths

Canal Width

The Canal width is to be determined in consideration of the safety of tankers and ships in transit taking into consideration the hardness of the soil.

The following conditions will be respected in designing the breakwaters:

- alternative designs and relative time of execution.
- optimum length and height of the western submerged breakwater in comparison with dredging costs
- the alignment, the length and the type of new eastern breakwater should minimize erosion on the eastern bank of Port Fouad and reduce to acceptable rate the siltation in the new by-pass
- the new easterb breakwater should minimize the waves in the new entrance harbour.
- the total cost should be minimized (investment and maintenance).

F- CONTRUCTION SCHEDULE

A modern method must be used for planning and scheduling the project. Critical path method (PERT) can be used in order to:

- a) analysing the various tasks in the scheme
- b) defini f the logical links between these tasks
- c) Forecasting the duration necessary for each unit task
- d) computing the overall duration and the possible margin available for certain tasks.

These methods ought to be applied in various operations such as:

Design Operations

- Investigations and surveys
- Tests
- Design of various stages, feasibility, preliminary and final

Administrative Operation

- Budget and finance operations
- Call for tenders

- Execution of contracts (supply and construction)

#### Construction Operation

- Construction and delivery of equipments
- Organisation and civil work in site

#### N.B.

- a) These methods should allow an increase of accuracy in planning and progress in the execution without altering the funment of the initial program.
- b) They should give a clear view of how interfere various tasks which are assigned to various sections and must be an efficient way of coordination between different centres of responsibility.
- c) Using the electronic computer, these methods must allows quick review of the scheduling during the different steps of the execution and can foresee the consequences of unknown events (delays occured for certain tasks, either financing or delivery of equipments or delay in the execution for defferent reasons, etc....) in order to find the best solution.

SUEZ CANAL AUTHORITY

Messrs.

Dear Sirs,

With regard to our terms of reference, concerning the feasibility study for development of the Suez Canal, we have pleasure to give you herewith more guide lines on the engineering aspects of the project. Most of these points were raised during our discussions with different consultants.

In response to requests of the majorities of consultants we decided to postpone the date of submission of the proposals up to Tuesday 25th of March 1975 noon time, at our Cairo office 6 Lazogly street, Garden city, Cairo.

The duration of the execution of the study by the selected consultant will be also extended to nine months instead of six.

Three months after the signature of the contract, an interim report must be submitted determining the layout and the general lines of the project, in order to allow the S.C.A. to put into international tender some lots of dredging within flexible limits and quantities. Monthly interim reports showing progress of work and results of finished studies should be submitted. The final report should be presented before the end of nine months.

Some hydraulic models may continue if necessary after the expiration of the nine months. Special reports relative to these experiments should be presented to the S.C.A. as annexes to the final report.

While thanking you for your cooperation, we hope that you find in the annexed documents some answers to your questions.

Yours Sincerely,

SUEZ CANAL AUTHORITY

Engineering Dept.



(A) Changes and explanations of some points in the terms of reference

Page 1 : Line 8

on 25th of March 1975

At the end of the preamble

The consultant will:

- a) Forecast of the most probable future traffic trends in the world oil tanker and dry cargo ships.
- b) Determination and forecast of expected future transit tabulated by ship size.
- c) Estimation of the expected annual income in function of different depths of the canal.
- d) Estimation of the annual Canal operating costs (including silting and maintenance of materials and revetments).

Page 2 : Line 19

about 9 months.

At the end of page 2 add:

Ship savings according to possible level of dues and future earnings of the S.C.A.

Page 3 : Line 5

We mean by "twice contingencies excluded"

Uncertain conclusions based on uncertain events are unacceptable.

Paragraph F Sensitive analysis

Instead of same as (5):

Carry out a sensitive analysis to test the feasibility of the project against:

- a) Changes in the project cost
- b) Changes in oil supply/demand
- c) Changes in the timing of the project

Paragraph G recommendation

Instead of same as (6):

Make recommendation as to the optimum size, and timing of the expansion.

III Scope of the technical study amended as follows:

A- General

Dependent on the results of the economic study and after

reviewing the consultants recommendations, the S.C.A. will request the consultant to proceed with the engineering part which would include the following:

- a) Study of the standard canal cross-section and the annexed works by different permissible draughts:  
48' - 53' - 60' - 67' - 72' - 80'
- b) Estimation of the project cost relating to the above proposed draughts.
- c) Using a modern method for planning and scheduling the project.

Analysis of cost amended as follows:

For the purpose of the economic study the consultant should preface for various alternatives preliminary cost estimates sufficiently detailed to obtain an accuracy of about 20% for the cost of each major component (contingencies excluded). The consultant shall also study the possibility of stage construction and identify the area where costs are likely to vary substantially according to timing of construction. The consultant should for each alternative prepare a yearly schedule of expenditure unquote.

(B) Data to be furnished by the Suez Canal Authority

I A review of historical data on Suez Canal including:

1) Bank erosion and instability

All such phenomena that occurred in the past collected and analysed including:

importance, time, navigation intensity, nature of soil, ground water, shape of collapse of revetments... etc.

2) Tides and tidal current velocities

Records of tides in port-said and Suez.

Also measures of velocity of different currents in different parts of the Canal and approach channels.

3) Borings

Available data and seismic survey will be given to the selected consultant.

- 4) Silting and scouring  
Silting and scouring in the Canal, the approach channels and beaches collected by the S.C.A. Engineering Department.
- 5) Statistical data on wind and waves  
Long term statistical distributions of wind data from S.C.A. meteorological stations. Also data about some recorded wind waves and swells in Port-Said approach Channel and Ship waves, recorded in the canal and in reduced model experiments.
- 6) Statistical data on ships: that transited through the Canal up to the end of 1966.
- 7) Past data on types of revetments used in the Canal.

II Drawings, plans and facilities to be furnished by the S.C.A.:

- 1) Plan and topographical map of the Suez Canal area scale 1/100.000
- 2) Plan and topographical map of Port-Said area where the west breakwater is assumed to be elongated and the near east breakwater is assumed to be erected.
- 3) Present navigation aids installed in the Canal.
- 4) Present convoy system and navigation control.
- 5) Present condition of Canal management and staff
- 6) Detailed drawings of the existing bank revetments and their problems.
- 7) Location and output of the quarry and other sources of building materials.
- 8) Unit prices of building materials and labour cost in the S.C. area including:  
cement, reinforcement bars, timber, labour cost, technicians .  
... etc.
- 9) Availability of electricity, water, fuel and workshops.
- 10) Any other data available in the files of the S.C.A.

N.B. Dredging works:

- 1) Dredges can work almost continuously in enlarging the canal without interruption of the navigation. For deepening, the dredgers will work between the passage of convoys. The period between convoys can be estimated to about 10 hours.
- 2) The consultant can fix a program of field measurements either

to check the accuracy of the delivered data or for more information necessary either for the calibration of the different models or for the other studies in the project.

The S.C.A. can help in this matter by delivering available floating equipments and personel. The consultant would deliver for this purpose the adequate instruments and other equipment needed and special technicians.

(C) Technical data to be furnished by the Consultant

Review of up-to-date researches and experiments on:

- a) Modern Bank protection methods  
including applicability in the different parts of the Canal.
- b) Ship generated phenomena  
squat, return currents and waves in restricted channels and shallow approaches for mamouth tankers.
- c) Stopping distance in restricted channels.
- d) Limit speed, and minimum speed allowing possible steering in restricted channels.
- e) Different types of submerged breakwaters characteristics, efficiency against waves and silting, stability, applicability in silty fluid soil, cost, possible time of execution.
- f) Counter measures against navigation risks and recommendation on safe practice for tankers and L.N.G., L.P.G. in harbours and canals.

(D) Mathematical and Hydraulic Models

- 1) Mathematical model for tidal computation  
A math. model is required to be carried out taking into consideration wind influence and also the influence of salinity difference. The out put must be suitable for studies of sediments transport and the navigation requirements.

Also programs to be prepared by the consultant to give the speed of the tidal current every five kilometers in the part of the Suez Canal between the Red Sea and Bitter Lake, every hour in order to be used by pilots and contractors.

- 2) Hydraulic models for determination of squat, return current and

wave generated by ships (self propelled models of mamouth tankers), should be carried out for different ship/canal cross sectional ratio ranging from 1:4 to 1:6, and speeds ranging from 10 to 15 km/hour.

3) Magnitude of maintenance dredging

A mathematical model to be used to predict the sedimentation and erosion in the canal and Port-Said approaches and estimate the annual magnitude of maintenance dredging.

4) Hydraulic models for breakwater

Can be used in order to determine the optimum alignment, length and height of the elongated submerged western breakwater in order to protect the entrance channel of Port-Said navigation road from silting.

The stability of different types proposed should be examined.

Also the new eastern breakwater should be examined (length, direction, type, characteristic) taking into consideration that no erosion would take place on Port-Said coast and optimum calm area between the two breakwaters.

- (E)
- 1) The consultants are requested to utilise to the utmost possible the Suez Canal research laboratories and provide unavailable instruments for hydraulic models and different analysis.
  - 2) Consultants are requested to make use of the S.C.A. computer (1902... ICL) whenever possible.
  - 3) Consultants are requested to state the names and addresses of the source (or sources) to be performing the study of crude oil and oil products supply and demand stated in page 2 in the terms of reference.
  - 4) Consultants are requested to state the names and addresses of the source (or sources) to be performing the study and calculation of the cost of dredging works as it represents the major part of the total cost of the project.
  - 5) Consultants are requested to state the names and addresses of the source (or sources) to be performing the study on oil transport and tanker fleet.

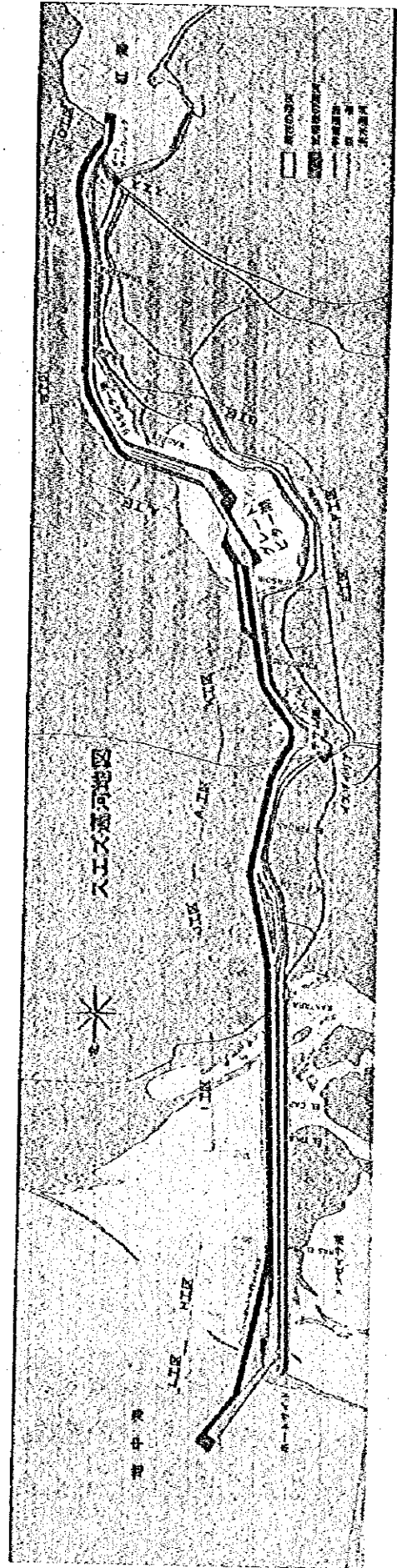
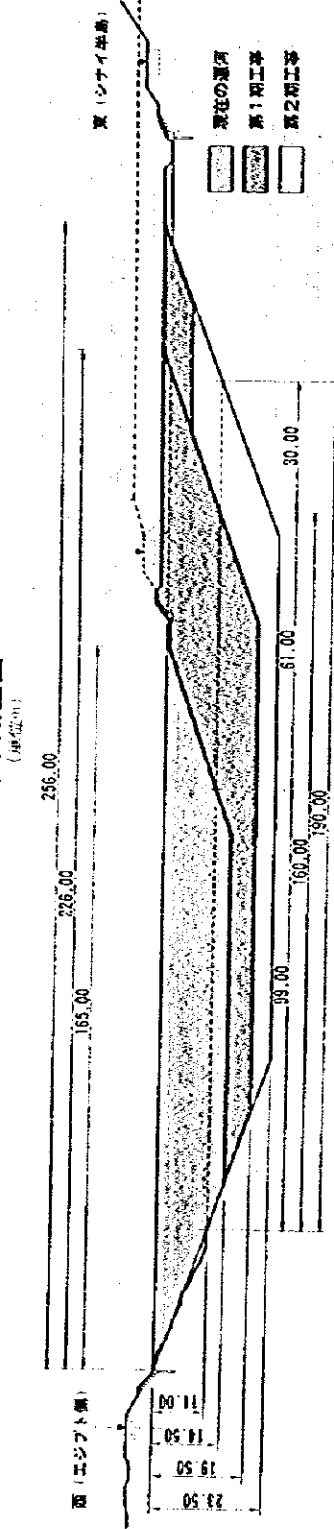
- (F) The Consultants are requested to indicate the ideal layout and design of

the new Port-Said projected by-pass in order to obtain a max. capacity of traffic and to decrease the probabilities of accidents in Port-Said harbour.

- (G) The Consultants are also asked to prepare the best mooring system in Ballah by-pass and Port-Said harbour. This system must take into consideration the effect of propellers on the stability of slopes and the behaviour of revetments and also resist against the force of wind blowing with a speed of 18 m/s on the ship with an angle of 45°. (18 m/s is the speed of the wind blowing once every 5 years)
- (H) Local contractors began the execution of dry excavation works and new revetment/construction as seen in the attached plans. The consultants are requested to verify these dimensions and notify in the first interim report the need of an eventual change in the dimensions, different levels or any other technical comments.

# スエズ運河拡幅・増深計画

標準断面図



7. 第一期拡張工事実行計画

借入金 418.85百万円 (79.7%) 借入金に占める比率 69.4%  
 うち日本企業 290.7百万円  
 直務企業 106.75百万円 (20.3%)

工区 区画	位 置	土 量 km	施 工 者	開 名	借 入 額 億円	期 間 (計 画)			資 金	
						1976	1977	1978		
A1	km 61 ~ 78.00	36.0	五洋建設	日		5/18		4/18	O.E.C.F.	
A2	km 114.8 ~ 122.1	9.2	"	"		5/18		4/18	"	
B	km 122.1 ~ 145.0	36.2	"	"		5/18		4/18	"	
C	km 145.0 ~ 161.05	30.3	"	"		5/18		1/18	"	
D	km 161.05 ~ Hm 77	13.0	Vianini	伊		1/1	12/80		757・777	
E	km 94.5 ~ 101.05	31.8	五洋建設	日		6/1		3/30	O.E.C.F.	
F	km 101.05 ~ 109.0	28.55	U. M. D.	仏		6/1		5/30	757・777	
G	km 109.0 ~ 122.1	28.35	五洋建設	日		9/1		5/30	O.E.C.F.	
H	Port Said By-Pass	49.5	三井不動産建設	日		9/15		6/30	757・777	
I	km 30.0 ~ 42.0	29.75	東葉建設	日		9/15		6/30	"	
J	km 50.5 ~ 61.0	51.6	五洋建設	日		9/15		6/30	"	
K	km 78.0 ~ 94.5	42.6	Dredging International	蘭		9/15		6/30	"	
L1	km 1.5 ~ Hn 110	44.0	Vianini	伊		12/15		9/15	"	
L2		8.0	三井不動産建設	日					"	
M	Port Said Channel	34.35	S C A	「エ シ フ ト」		6/1		6/30		
N	Port Said Harbour	4.5					6/1		6/30	
O	km 3.6 ~ 7.0	7.5					6/1		6/30	
P	km 16.5 ~ 30	32.6					6/1		6/30	
Q	km 42.0 ~ 50.5	20.1					6/1		6/30	
R	Ballah-West-Pass	7.7			1975			6/30		
橋	橋					9/30				
路上掘削	路上掘削					3/31				
護岸工事	護岸工事									
防波堤	防波堤									
その他土木工事	その他土木工事									
機	機									
建設機材	建設機材									



8. 第一期拡張工事等の資金源（計画）

（単位：£E Million）

	1976	1977	1978	1979	1980	1981	TOTAL
内部一般資金	117.4	117.5	125.9	127.8	130.2	170.6	789.4
借款							
• Rehabilitation Project	32.6	18.5	20.4	2.8	-	-	81.3
I B R D	5.9	9.4	16.9	2.8			335.0
Kuwait	1.3	9.1	3.5				13.0
Abu Dhabi	13.2						13.2
Saudi Arabia	19.2						19.2
• Expansion Project	40.0	34.1	121.9	111.1	58.1	-	365.2
I B R D			20.5	23.8	25.7		70.0
Japan (OECF)	40.0	30.1	41.0	27.3	18.2		156.6
Saudi Arabia			27.0	9.0			35.0
Kuwait			8.0	6.0			14.0
Abu Dhabi			12.0	2.0			14.0
Arab Fund			9.0	15.0	4.7		28.7
Islamic Bank		4.0	4.4				8.4
US AID				11.0	6.5		17.5
Other Bilateral				18.0	3.0		21.0

※ 拡張工事借款に占める円借の比率 42.88%





JICA