ARAB REPUBLIC OF EGYPT

TECHNICAL COOPERATION PROGRAM

TO

PLANNING AND RESEARCH DEPARTMENT,
SUEZ CANAL AUTHORITY

TRAINING PROGRAM DOCUMENT

- A REVIEW REPORT OF THE TRAINING PROGRAM IN JAPAN -

SEPTEMBER 1978

JAPAN INTERNATIONAL COOPERATION AGENCY



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A REVIEW REPORT OF THE TRAINING PROGRAM IN JAPAN

PREFACE

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This summary paper is written to assist the SCA's participants to understand the objectives, contents and methods of the training program in Japan. The training program in Japan was designed in accordance with the provisions made in the Scope of Work, which was agreed upon between the Suez Canal Authority and the Japan International Cooperation Agency on behalf of the Japanese Government in June 1978.

The training program will be conducted for a period of three years for the participants selected by the SCA. The objectives of the program are to assist the SCA to establish the Economic Unit as a viable and workable research unit within the SCA so that its staff members will become capable of performing the research functions and tasks required by the SCA management.

In this paper, the first year's training program is outlined, and it is requested that the SCA's participants shall carefully read this summary paper in order to understand what is expected of them during the training period in Japan.

The first year's training program will be conducted over a 13 week period, from September 25 to December 26, 1978. The training program is divided into five parts as below:

- No.1 An Introduction to Maritime Transportation
- No.2 An Introduction to Basic Mathematics, Statistics and Computer Programming
- No.3 Basic Methodologies for World Economy, Trade and Transit
 Analysis and Forecasting
- No.4 Exercises for Transit Forecast and Project Evaluation
- No.5 Workshop of Job Initialization of the Economic Unit.

Training textbooks will be written on each of the training courses and distributed in advance to the SCA participants. They will altogether comprise a supplementary text to Training Program Document. The training textbooks for the remaining years will be prepared later after taking into consideration the results of the first year's training program.

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This report was prepared by Dr. Noboru Sugino and Dr. Morimitsu Inaba of Mitsubishi Research Institute, Tokyo, Japan. It is hoped that the objectives of the training program in Japan will successfully be accomplished by joint and concerted efforts of the SCA participants, training staff members and other organizations concerned.

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CHAPTER 1 INTRODUCTION

This summary review report of the training program in Japan (October-December 1978) is prepared as a text for the orientation course that will be given in the first week of the training. In this review report the following will be briefly explained.

In Chapter 2 a general framework of the training program in Japan is described, referring to the objectives of the training, qualifications of the SCA participants, training policies and contents of the training program, methods of training, overall training schedule and other related matters. This Chapter is written in order to help the SCA's participants understand the nature and objectives of the three year training program. However, it must be understood that the general framework described in this Chapter is a tentative plan of how the training program in Japan will be carried out in three years, and that the detailed contents of the training will only be determined at each stage by taking into consideration the qualifications of the SCA participants, the results of first year's training, requirements and needs of the SCA management and other related problems.

Necessary information pertaining to the first year training program in Japan is provided in Chapter 3,4,5 and 6. These Chapters should be carefully read by all SCA participants, for they are concerned with the fundamentals of the first year's training. Special attention should be drawn to respective sections of Chapter 4. Many Institutes and a large staff will be involved in this training program and their respective roles are briefly described in Chapter 5, and the participants are requested to consult with persons in charge whenever questions may arise pertaining to this training program and life in Japan. In the final Chapter instructions are listed that ought to be carefully observed by the participants.

This review report of the training program in Japan is a compendium of five Supplementary training textbooks (No.1 through No.5) that will be provided to SCA participants. These training documents should be carefully handled because they will be frequently referred to during the three year training period.

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2.1 General Remarks

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The proposed technical cooperation program is designed to serve the following objectives:

- 1) To firmly establish the Economic Unit within the organizational framework of the SCA so that it will become capable of performing the research functions and tasks required of it by the SCA management.
- 2) To develop and upgrade the research and analysis capabilities of the staff members who were, and will be, recruited to the Economic Unit.

The former objective is defined as a task of "organizational building," on-the-job training and consultation services that will be offered to the participants at the SCA by Japanese professionals. The latter objective is a task of training. Technical training programs will be provided to the SCA's participants in Japan for a necessary period of time each year. The training curricula will be designed to meet the goals that technical knowledge and skills necessary for performing the Economic Unit's tasks be sufficiently acquired by all of the participants.

It must be taken for granted that the organization building and training of the staff ought to go hand in hand with each other and both should be considered as an integral part and parcel of the present technical cooperation program. However, in accordance with the provisions specified in the Scope of Work agreed upon between the two parties concerned, the technical cooperation is composed of two distinct programs; one is the on-the-job training (OJT) at the SCA, and the other is the training program in Japan. A full explanation will be given in a Final Draft Report on the Study of Organization and Functions of the Economic Unit concerning how these two programs will be synchronized and carried out.

In order that the SCA's participants might become familiarized with the general objectives, principles, and modus operandi of the training program and what will be expected of them during the three year training period, some of the essentials will be explained in the following sections.

2.2. Objectives of the Training Program in Japan

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Any technical training program must be planned on the basis of the following considerations: 1) clarification of the training needs, 2) who are to be trained, 3) availability of human and organizational resources, 4) training policies, methods and strategies, 5) implementation problems of who is to do the training, when, for how long and where. In this and the following sections some of these training policy problems will be briefly explained.

The objectives of the training program in Japan are defined as follows:

- In order for the Economic Unit to become a viable and workable research unit within the SCA, its staff members must acquire technical knowledge and skills necessary for performing the required tasks and jobs.
- 2) The primary function of the Economic Unit is to supply the SCA management with valuable information that is necessary in order to make rational decisions and plans.
- 3) The specific taks and jobs that must be carried out by the Economic Unit are: a) compilation, publication and analysis of economic, financial and operational data relating to the SCA's performance, b) short and long-term traffic forecasts, c) analysis of tariff policy and impacts of tariff changes, d) collection and analysis of all data relating to the SCA business environment, e) project evaluation, f) study of convoy system, cost analysis of the SCA operations, g) study of technological changes in shipping and maritime transport and h) world market study.
- 4) To accomplish these tasks, it is tentatively planned that two groups will be created within the Economic Unit; one is called "the Economic Research Group" which will be in charge of undertaking research and information gathering on the matters relating to the economic and financial aspects of the problems, and the other is called "the Systems Analysis Group" which assumes the responsibility to analyze problems by means of quantitative methods, management science and technology.
- 5) It is hoped that by the end of the three year training program, staff members of the Economic Unit will acquire a degree of research proficiency that is sufficient enough to carry out the required research jobs either as a member of the Economic Research Group or as a member of the System Analysis Group.

2.3 Availability of Human and Organizational Resources

To what extent the objectives set forth will be accomplished depends in a large part upon who are selected for the staff positions by the SCA and also upon how much organizational support will be given to this program by the SCA. In this regard, careful consideration should be made to the following:

- 1) It is highly desirable that those who will be recruited to the Economic Unit are persons with the following qualifications: a) university graduates specialized in any of the following fields, viz., economics, managerial accounting, engineering, statistics, computer science and other science fields, b) relatively young enough to quickly absorb technical and new knowledge and skills, c) worked for several years at the SCA so that they are familiar with its operational problems, d) sufficient degree of English proficiency in understanding technical subject matter.
- 2) Although the Japan International Cooperation Agency (JICA) will make a recommendation to the SCA as to who will be desirable for the Economic Unit, the final judgement and selection will be made by the SCA.
- 3) Depending upon who will be selected for the Economic Unit, the types and length of the training program to be required will inevitably change. Therefore, the training program suggested in this paper should be regarded as a general framework within which detailed program contents will be decided at each stage by taking into consideration the qualifications of those who will be selected.
- 4) No technical cooperation program will become successful unless it is fully supported by the parties concerned. It must be kept in mind that the present program is no exception and requires joint and concerted efforts both of the organizations.

2.4 Training Policies

The proposed technical training program will be characterized by the policies, methods and stragegies used to implement the training objectives

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set forth in the Section 2.2. The training must be conducted both in Ismailia and Japan. The policies adopted in the present program are clearly spelled out as follows:

- 1) The stepwise approach is adopted and the training starts from the basic training curricula which will be taught to all of the participants and then gradually shifts to more specialized and advanced fields of training.
- 2) The "product-oriented" training method is used in order to achieve the following: a) production of research output and training will become effectively combined, b) routine research jobs will be created during the training period, c) the learning process will be expedited through "doing actual research work" and d) the participants will be able to develop a sense of purpose, goal and achievement orientation.
- 3) Pragmatic, iterdisciplinary and problem-solving approaches are to be adopted in view of the concrete and immediate needs that face the SCA management.
- 4) Lecture and problem excercise sessions will be effectively combined so that theoretical knowledge of the required subjects will be directly translated into the research and application problems of the SCA.
- 5) The activity or action orientated method is used in such a way that practical skills will be quickly acquired by the participants so that they will be capable of carrying out the whole process of a research project.
- 6) The so-called "micro-approach" is used with a view to training the staff members who will directly contribute to the "organization building" of the Economic Unit. The training program will be carried out in relative isolation from the intraorganizational problems of the SCA.
- 7) The training curricula will be flexible and adjusted to meet the qualifications and specific needs or requirements of the participants.
- 8) The training program in Japan will be linked with on-the-job training at the SCA and allow a sufficient "breathing period" during which time the participants will be able to perform double tasks: viz., review and supplementary study of what they have already learnt, and

necessary preparations for the succeeding training program.

9) A series of group sessions will be held to establish the group spirit or a sense of team work among the participants.

2.5 Contents of Training Program

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The training curriculum courses will be divided into four groups :

- 1) those which must be commonly taken by all members of the Economic Unit,
- 2) special curricula that will be designed for the specific requirements of the Economic Research Group,
- 3) quantitative methodology orientated curricula which will be geared to the needs of the System Analysis Group and
- 4) research management curricula that are specially designed for managers of the Economic Unit.

The curriculum contents of these four training programs will be briefly explained below.

(1) Basic and Common Curriculum Program

There should be a basic and common training curriculum that must be taught to all members of the Economic Unit. This basic training program serves the following purposes: 1) a full understanding will be reached among the staff members with regard to the nature and types of the research jobs which must be undertaken by the Economic Unit; 2) they must become familiarized with the basic theories and methodologies that will be used to analyze internal and external policy problems of the SCA; 3) basic knowledge and skills must be acquired by the staff members as to how the Economic Unit's research work must be carried out. To meet these goals, the following curricula will be offered to the SCA's participants in the first year.

- 1) Basic knowledge of maritime transport problems and statistics
- 2) Elementary statistical data analysis methods
- 3) Theories and methodologies of maritime transport economy4) Analysis and forecast methods of the SCA problems, e.g.,Canal transit and project evaluation
- 5) Research methods and procedures

(2) Special Curricula for Economic Research Group

In order to assist the future members of the Economic Research Group to acquire knowledge and skills necessary for undertaking the research work on the SCA's economic and financial problems, the following special training courses will be taught:

1) International economic and trade analysis

2) Maritime transport economics

- 3) Managerial economics4) Managerial accounting
- 5) Introductory econometrics or mathematical economics and statistics.

(3) Special Curricula for Systems Analysis Group

The Systems Analysis Group is planned to assume the responsibility of undertaking quantitative analyses of the SCA's planning and decision making problems by means of the Systems Analysis approach and it should be regarded as the core research group of the Economic Unit. An intensive training program will be given to group members on the following:

1) Mathematics and statistics

2) Systems analysis

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3) Management science & operations research

4) Computer science5) Forecasting methods

6) Cost/benefit analysis and other quantitative methods of project evaluation and problem-solving

(4) Special Curricula for Research Organization Management

Special curricula will be given, though less intensively, to senior staff members of the Economic Unit so that the Economic Unit as a research organization will be effectively managed and research projects and programs will be efficiently planned and controlled.

1) Business research methods

- 2) Management theory and practice of a research organization
- Behavioral science and management accounting
- 4) Project team organi ation and management

2.6 Training Principles and Methods

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Viewed from the vantage point of experience and lessons accumulated over the years at various training institutes in Japan as well as in foreign countries, the following principles and methods of training will be selectively used in the present training program in Japan:

- In all training programs emphasis will be placed on practical techniques and problem-solving approaches, and formal class-room lecture sessions will be greatly reduced.
- Participant-centered training methods such as workshops, group and teamcentered discussion groups, case studies, individual exercises and assignments, etc., will be used.
- 3) Self-training programs of sufficient length will be provided to the participants for the period between the training in Japan and the on-the-job training at the SCA.
- 4) Necessary preparations will be made to "train trainers" so that training staff will develop: a) an open personality that responds to the needs of the SCA and the participants, b) an ability to utilize a variety of teaching methods as circumstances require and c) an ability to establish human rapport so that training will become considered as a shared responsibility among the parties concerned.
- 5) The participants must become motivated to learn new skills and acquire knowledge. The learning process and results should be checked and feed back to the succeeding stage. The materials to be learned should be developed by stages with feedback corrections at each stage. Learning by doing will be stressed.

2.7 Research Output Planned to be Produced

As mentioned earlier in the Section 2.4, it is planned that a variety of research output will be produced by the participants if necessary with assistance from the Japanese consultants during the three year training period. This plan is intented to serve the following purposes:

- Actual research work will be created and gradually routinized as "jobs" so that staff members will have concrete job requirements to be fulfilled.
- 2) As the amount of output grows and quality improves, the organization building of the Economic Unit will gradually materialize.
- 3) The participants will be able to develop a sense of goals and accomplishment which will result in the quickening of their learning process.
- 4) They will be able to learn business research methods, starting from the planning phase of a research project and finishing with the writing up of an actual research report.
- 5) A central target or focus will be created and every activity will be geared towards attainment of the concrete objectives to produce the research output.

CHAPTER 3 OBJECTIVE OF THE FIRST YEAR TRAINING PROGRAM

3.1 General Objectives

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The training program in Japan (October-December 1978) marks the beginning of the three year technical cooperation program offered to the SCA by the Japan International Cooperation Agency (JICA) on behalf of the Japanese Government. It is designed to serve the following general objectives:

- Acquisition of, and familiarity with, basic knowledge, technical skills and methodologies as is required for the research work of the Economic Unit.
- 2) Establishment of a common framework of the Economic Unit so that the SCA's participants will be able to have shared goals, job requirements and a sense of responsibility to become a professional research group of the SCA.
- 3) Evaluation of the participants' capabilities, level of previous training and aptitude for research; on the basis of which the level and contents of the training program for the succeeding steps will be planned.

In order to achieve these objectives the training curricula of the first year in Japan will be programmed according to the following principles:

- All of the trainees will become exposed to a variety of research tasks, methodologies, theories and concepts, statistical data, problem areas, etc., all of which will be covered in the remaining years of the training.
- 2) All of the training programs will be conducted at an introductory level and within a limited time of three months so that the participants will become sensitized and introduced to all of the research problems that will face the Economic Unit in the future.
- 3) A series of problem exercises will be given to the participants so that their general capabilities and potentials will be accurately assessed and a tentative judgement can be made of their aptitude either for the Economic Research Group or the Systems Analysis Group.

Participants might get a feeling that the first year training program is too intensive to fully absorb and understand what is taught, as it will cover a variety of subjects within a limited time span of three months. However, it is not intended that the participants should comprehend all of the curricula in depth. It must be kept in mind that they will be given enough time at the SCA to review and supplement what they will have learnt in Japan during the period of January-March, 1979.

3.2 Specific Training Curriculum Plan

The first year's SCA's participants are diverse in their educational level, previous experience at the SCA, subject speciality and age. In order to achieve the general objectives set forth in the previous section while accommodating their respective needs and requirements into training program, the following training curriculum plan was programmed:

- Introductory course of maritime transportation problems in which all
 of the world seaborne trade and maritime transport problems relevant
 to the SCA will be discussed and the basic concepts and terminologies
 explained.
- 2) A statistical data analysis course in which elementary mathematics, satistics and computer programming is explained.
- 3) A training course in which basic theories, concepts and methods of international economy and seaborne trade, transit analysis and managerial economics will be discussed.
- 4) A course in which basic methods of transit forecast and project evaluation will be explained in their relation to the SCA's concrete problems.
- 5) A course in which business research methods and procedures will be explained.

The training program of the first stage will thus consist of these five curricula, but they will be preceded by an orientation course in which an outline and instructions will be given to the participants concerning how these courses will be carried out during the period of 13 weeks. It is also planned that at the end of the training sessions of each of the training courses a set of assignments will be given to the participants for their

self-training that must be carried out from January to the end of March 1979. In addition, it is desired that the SCA's participants will have sufficient opportunity to closely observe how seaborne trade operations are conducted at the points of cargo loading and discharging in Japan.

CHAPTER 4 AN OUTLINE OF THE FIRST YEAR TRAINING CURRICULA IN JAPAN

4.1 Organization of the Training Program in Japan

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In order to implement the objectives of the training program explained in the previous Chapter, the present training curriculum is organized and is to be carried out in accordance with a 13 week schedule from September 25 to December 26, 1978. In this Chapter a detailed explanation will be made as to what and how the training program will be conducted in Japan. As indicated below, the training program is divided into 5 separate training curriculum courses in addition to an orientation course and an extra-curricular activity of field trips in Japan.

<u>No</u> .	Curriculum Title	Institutes & Place	<u>Week</u>
	A General Outline of Training Program in Japan: Course Orientation of Training Curriculum	Mitsubishi Research Institute (MRI, Tokyo)	lst Week
1	An Introduction to Maritime Transportation	Japan Maritime Research Institute (JMRI, Tokyo)	2nd & 3rd Week
2	An Introduction to Basic Mathematics, Statistics and Computer Programming	Port and Harbour Research Institute (PHRI, Yokosuka)	4th, 5th and 10th Week
3	Basic Methodologies for World Economy, Trade and Transit Analysis and Forecasting	Kyoto University Group (KUG, Osaka)	7th, 8th and 9th Week
4	Exercises for Transit Fore- cast and Project Evaluation	Mitsubishi Research Institute (MRI, Tokyo)	llth & l2th Week
5	Workshop of Job Initialization of the Economic Unit	Mitsubishi Research Institute (MRI, Tokyo)	13th Week
	Extra-curricular Field Activities Trips	Japan International Coorperation Agency (JICA, Kyushu, etc.)	6th Week

Each of these training courses is organized according to developmental stages and sequential order so as to enable the SCA's participants to go through step by step learning processes and finally, at the end of the training

period, they will reach a point where they will have been sufficiently exposed to all of the research problems and methods of the Economic Unit. As indicated in Figure 4.1, an entire training program is divided into three parts. They are proceeded by a brief preparation and self-training program given at the SCA prior to their coming to Japan and followed by the self-training program and assignments to be completed during January-March 1979. They will be briefly explained in the following paragraphs.

(1) Basic Training of the First Part

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In this part the trainees are required to get themselves familiarized with basic problems, concepts, methods and techniques which are closely related to expected future works of the Economic Unit, and this objective will be attained through attending the following curriculum courses:

- 1) A General Outline of the Training Program in Japan: Course Orientation of the Training Curriculum
- 2) An Introduction to Maritime Transportation
- 3) An Introduction to Basic Mathematics, Statistics and Computer Programming
- 4) Basic Methodologies for World Economy, Trade and Transit Analysis.

A total of 9 weeks will be spent on the basic training course in the first part.

After having sufficiently acquired basic knowledge and skills necessary for understanding a variety of problems or issues that might confront the Economic Unit in the SCA, trainees are expected to move to the next stage of application exercises and the problem-solving course. They will be given concrete problem examples of the Suez Canal by means of which they will have opportunities to apply the knowledge and methods acquired in the first stage into actual problem-solving situations. This task will be given in the following curricula:

Exercises for Transit Forecasting and Project Evaluation. Extra-curricular activities on field observation trips.

Table 4.1 Training Curriculum Organization

		Objectives of Program	Training Program Contents	Days	Training Institutes
	An Drientation Course: A General Outline of Training Program	A briefing of the objectives & training program contents	Training course explanation, program organization, training institutes and information on life in Japan	5 G days	Mitsubishi Research Institute (MRI)
No. 1	An Introduction to Maritime Trans- portation	Explanation of maritime transportation problems relevant to the SCA	Lecture & discussion sessions on liner and tramp shipping markets, a variety of shipping problems	10 days	Japan Maritime Research Institute (JMRI)
No. 2	An Introduction to Basic Mathematics, Statistics & Computer Programming	An introductory explanation on statistical data analysis techniques and computer programming	Lecture & problem exercises on algebra and elementary calculus, descriptive statistics, elementary programming	15 days	Port and Harbour Research Institute (PHRI)
No. S	Basic Methodologies for World Economy, Trade & Transit Analysis & Forecasting	An introduction to theories and methods of world economy & trade, economic analysis of management & transit	Lecture & problem exercise sessions of international trade, managerial economics	15 days	Kyoto University Group (KUG), Professors of Kyoto, Kagawa and Okayama Universities
No. 4	Exercises for Transit Forecasting & Project Evaluation	Analysis exercises of the SCA problems	Lecture & application problem exercises of forecast and project evaluation	10 days	Mitsubishi Research Institute (MRI)
N 0. 5	Workshop of Job Initialization of the Economic Unit	A brief explanation of research planning, execution & control, and research organization management	Lecture & workshop sessions on the SCA's research needs and the Economic Unit's roles: assignments	5 days	Mitsubishi Research Institute (MRI)
	Extra-curricular- Activities: Field Trips	Field observation trips of actual sea-borne trade operations in Japan	Visits to harbours of Shimonoseki, Kitakyushu, Kobe, Kashima, etc.		Japan International Cooperation Agency (JICA)

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This part should be regarded as of considerable importance for the trainees, for whether the concepts and methods previously studied by trainees would become actual tools of analysis of Suez Canal problems will depend entirely upon how much they will learn from the problem exercises of this stage. It is strongly urged that trainees will pay special attention to the expected outcomes resulting from this stage of the training program. Field observation trips are also planned and they are designed to serve the purpose of providing trainees with opportunities to observe actual seaborne trade operations in Japan so that they will be able to develop a "feeling" of how actual shipping problems are tackled at the points of loading and discharging cargoes in habors of Japan. A total of three weeks are planned to be spent upon this stage of the training.

(3) Preparation for Job Initialization of the Economic Unit: the Third Part

All of the previous training programs should converge to this final stage of the training program in Japan and from this stage on the trainees are encouraged to become self-oriented and self-supporting so as to be able to play a part in the organizational team of the Economic Unit. They must develop a sense of purpose in their career development to become professional researchers for the Suez Canal Authority.

All necessary instructions will be given to trainees during the workshop with regard to: 1) how to provide valuable information and research services to the decision making process of the Suez Canal Authority; 2) how to effectuate their planning and research activities and how to plan, manage, implement and control their activities; 3) how to hammer out organizational and behavioral problems that might arise relating to their research activities within the Department and SCA.

4.2 Allocation of Training Program Hours

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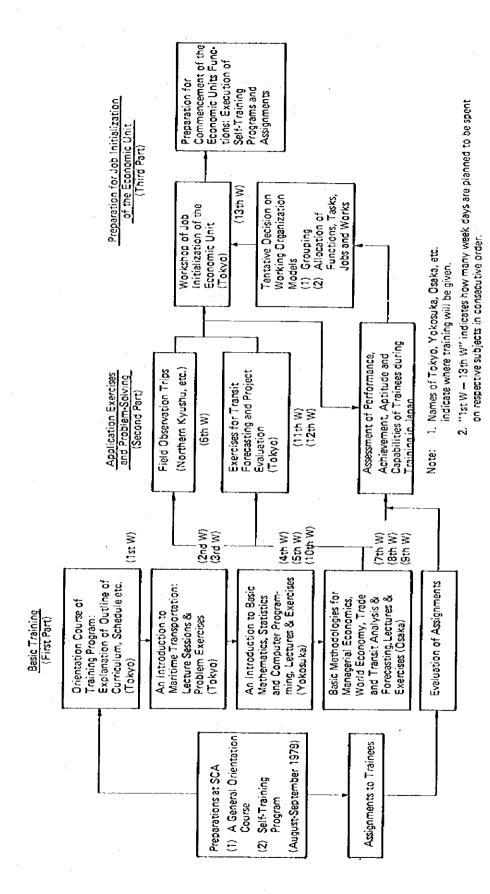
Total days and lecture hours allocated to the training in Japan are 60 days (270 hours) and Table 4.1 shows how they are allocated to each of the training curriculum units. However, the allocation of the training hours should be interpreted with the following notes in mind:

1) The SCA's participants are expected to spend an average of three hours

every training day on self study of the training curriculum subjects; the self study hours will amount to about 200 hours during three months training in Japan.

- 2) In light of the general teaching curriculum policy at graduate schools (70-80 hours for lectures and 100-150 hours for self studying per unit of the course), the training program designed for the SCA participants will correspond to three curriculum units at graduate school level.
- 3) In addition, a full three month period is made available to the SCA participants at the SCA for their review study and supplementary readings of the subjects that will be taught in Japan.
- 4) The training curriculum hours are allocated according to the following priority order of the subjects:
 - Seaborne trade analysis and project evaluation:
 a combination of curriculum No.3 and No.4
 - Data analysis technique of maritime statistical data: curriculum No.2
 - Introduction to maritime transport problems: curriculum No.1.

It is strongly urged that the SCA's participants will efficiently use their study hours in order to achieve the training objectives set forth in the first year's training in Japan. The training program in Japan is thus designed to concentrate on selected subjects and methodologies which are closely related to the SCA's problems.



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Fig. 4.1 Outline of Training Program in Japan (October – December, 1978) — A Sequential Order of Training Curriculum –

4.3 General Outline of Training Courses

It is planned that the following subjects will be covered in the respective training courses and lecture notebooks or training texts will be provided to the participants in advance. They are briefly explained in the following paragraphs.

(1) Curriculum No.1 An Introduction to Maritime Transportation

- 1) Maritime transportation business, structure of maritime transport and basic problems of shipping
- Tramp shipping (dry cargo movement, tramp fleet, dry cargo market and charter parties, etc.)
- 3) Tanker shipping (oil cargo movement, tanker fleet, ownership of oceangoing tankers, tanker market and tanker freight rate, etc.)
- 4) Liner shipping (general cargo movement, liner fleet, freight market, liner shipping market, liner shipping conference, etc.)
- 5) Transportation cost analysis (classification of costs, capital ship and voyage costs, etc.)

(2) Curriculum No.2 An Introduction to Basic Mathematics, Statistics and Computer Programming

Mathematics

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- 1) Review
- 2) Function and graph
- 3) Logarithms
- 4) Linear equations and linear functions
- 5) Solving equations
- 6) Quardratic function and equations
- 7) Permutation, combinations and binomial theorem
- 8) Polynominal
- 9) Inequalities
- 10) The derivative
- 11) Integration

Statistics

- 1) Variables and graphs
- 2) Frequency distribution

- 3) Mean, median, mode and other measures
- 4) Standard deviation and other measure of dispersion
- 5) Elementary probability theory
- 6) The binomial, normal and Poisson ditributions
- 7) The methods of least squares and correlation theory

Introductory Computer Programming

- 1) Concept of Fortran
- 2) Constant and variables
- 3) Expression
- 4) Array and subscript
- 5) Specification statement
- 6) Control statement
- 7) Input and output statement
- 8) Statement functions
- 9) Fortran sub-programs
- 10) Sub-routines and argument
 - (3) <u>Curriculum No.3 Basic Methodologies for World Economy, Trade and</u>
 <u>Transit Analysis and Forecasting</u>
 - 1) Managerial economics (concepts of risk and uncertainty, profit theories, demand analysis, cost analysis and pricing, etc.)
 - Systems analysis of world economy, seaborne trade and Canal transit volume
 - 3) General trends of world economy and seaborne trade
- 4) Origin and destination matrix and other methods of seaborne trade analysis and forecast
- 5) Statistical methods of Canal transit volume analysis
- 6) Methods to be used for estimation of the Canal traffic
- 7) Convoy system
- 8) Systems analysis methods
- (4) Curriculum No.4 Exercises for Transit Forecast and Project Evaluation
- 1) Introduction to feasibility study

- 2) Forecast of seaborne trade flows
- 3) Transit forecast
- 4) Evaluation of Canal capacity
- 5) Project evaluation
- (5) Curriculum No.5 Workshop of Job Initialization of the Economic Unit
- 1) Planning and decision makings of the SCA management and research and information needs
- 2) Types and fields of management research
- 3) Research planning, implementation and control
- 4) Research report writing

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5) Research organization management

4.4 Evaluation of Participants' Performance and Aptitude

It must be noted that during the period of training in Japan, trainees will be evaluated in respect to their general capabilities and aptitude as to whether they are suited to the job of a professional researcher. The purpose and method of assessment of their abilities are briefly explained below:

(1) Purpose of Evaluation

- 1) To find out what kind of functions, tasks and jobs they are most suited to.
- To assess their general capabilities and aptitude in order to plan a training program in the following years that will be adequate for them.
- 3) To judge a level of workload of the Economic Unit which they are capable of performing as a minimal standard of productivity.

(2) Method of Evaluation

- To evaluate the results of assignments given to trainees at the SCA by JST.
- 2) To administer a series of written tests during the training period in Japan concerning each of the curriculum subjects.
- 3) To make a tentative judgement as to the overall capabilities and aptitude of trainees by the end of 13 weeks by taking into consideration

all of the results of the examinations.

(3) What is to be evaluated

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- 1) General capabilities and aptitude as to whether they meet the qualifications of a researcher and planner.
- 2) Ability to think in terms of a logical frame of reference.
- 3) Ability to analyze problems and synthesize findings of research.
- 4) Motivation, initiative, leadership and other personality traits.
- 5) Ability to express ideas and to organize one's own thought.
- 6) Technical skills and speed and exactness in carrying out tasks.

Assignments and Instructions for Self-Training Program During the last week of training in Japan, assignments and instructions will be given to the SCA participants concerning their self-training program that they will carry out by themselves at the SCA. As previously indicated, there will be a period of several months available to them for their self-training between the end of the technical training in Japan (T.T.J.) and the on-the-job training at the SCA (0.J.T.). The self-training program is designed to serve a double purposes as mentioned below:

- 1) Review and supplementary study of what they have already learned in the previous step of the training.
- Necessary preparations that must be made for the succeeding step of training.

For the former purpose, a set of problem exercises will be assigned to individual participants and must be completed during the period of January-March 1979. The problems will be selected from five training curriculum subjects. For the latter purpose, a series of actions will be carried out by the Japanese consultants who will be despatched to the SCA in February 1979:

1) explanation of a final draft report on organization of the Economic Unit, 2) procurement plan of necessary research materials and supplies, 3) instructions as to how the Economic Unit's jobs must be initialized and 4) training program for the new recruits who will be selected by the SCA.

In the first year, the assignments will be given to the following problem areas :

- 1) Maritime transport and Canal transit problems
- 2) Mathematics
- 3) Managerial economics
- 4) Analysis and forecast methods of world trade and Canal transit volume
- 5) Project evaluation

4.6 Schedule of Training Program

In order to assist the SCA participants to understand how each of the training curricula will be carried out in Japan, the time schedule is briefly shown here.

(1) General Schedule

A General Outline of the Training Program in Japan: Orientation Course of Training Program

Duration: 27-29 September

Place:

KEIDANREH HALL, Tokyo

Institute: Staffs of Mitsubishi Research Institute

(MRI)

Curriculum

An Introduction to Maritime Transportation

No.1

Duration:

2-13 October

Place:

Japan Maritime Research Institute (JMRI),

Tokyo

Institute: Staffs of JMRI

Curriculum

An Introduction to Basic Mathematics, Statistics and

No.2

Computer Programming

Duration: 16-28 October, and 28 November - 2 December

Place:

Port and Harbor Research Institute (PHRI),

Yokosuka

Institute: Staffs of PHRI.

Curriculum

Basic Methodologies for World Economy, Trade and

No.3

Transit Analysis and Forecasting

Duration: 6-24 November

Place:

KANSAI Training Center, Osaka

Institute: Professors of Kyoto, Kagawa and

Okayama Universities

Curriculum

Exercises for Transit Forecast and Project Evaluation

No.4

Duration: 4-15 December

Place:

Olympic Memorial Youth Center (0.M.Y.C.),

Tokyo

Institute: Staffs of MRI

Curriculum

Workshop of Job Initialization of the Economic Unit

No.5

Duration: 17-26 December (including the last

orientating instructions)

Place:

Olympic Memorial Youth Center (O.M.Y.C.),

Tokyo

Institute: Staffs of MRI

Extra-curricular

Fields Trips

Activities

Duration:

30 October - 2 November, 25-27 November

Place:

HIROSHIMA, KOKURA, KANMON

Straits, SHIMONOSEKI, KITAKYUSHU

KOBE and KASHIMA Harbors

Institute: Japan International

Cooperation Agency (JICA)

Daily and Weekly Schedule

In principle, the following is a daily and weekly schedule:

Daily 1)

Morning Session:

10:00 a.m. - 12:00 a.m.

Lunch Time Recess:

12:00 a.m. - 1:30 p.m.

Afternoon Session:

1:30 p.m. - 4:00 p.m.

2) Weekly

Saturdays (with some exceptions) and Sundays are days-off.

CHAPTER 5 TRAINING ORGANIZATIONS AND STAFF MEMBERS

As frequently mentioned in the previous Chapters, a large number of government and non-government organizations and staff members will participate in the training program in Japan. In order to avoid possible confusion that might arise as to their respective roles, a brief description will be made here on their functions.

5.1 Japan International Cooperation Agency

This training program in Japan is organized by the Japan International Cooperation Agency (JICA), a public corporation for international cooperation services. It is requested that the SCA participants feel free to consult with officers in charge of JICA whenever questions might arise concerning accommodation, allowances, hospital and health care and other problems relating to the training life in Japan.

5.2 Training Institutes

Actual training programs will be carried out by professors and research staff members of government and non-government organizations. Any questions relating to the contents and methods of the training programs should be addressed to the persons in charge of the respective training curriculum. The organizations participating in the present training program are as follows:

- (1) Government Organizations
- Kyoto University Group (Professors of Kyoto, Kagawa and Okayama Universities)
- Port and Harbor Research Institute (PHRI), Ministry of Transport
- (2) Non-Government Organizations
- 1) Mitsubishi Research Institute (MRI)
- 2) Japan Maritime Research Institute (JMRI)

The training program will be conducted at various Institutes in different cities in Japan, and it is often necessary for the SCA participants to move from one place to another. It is advised that the SCA participants carefully follow the instructions given to them by the training staff members in charge. Names and addresses of the organizations in charge are given in Table 5.1.

Table 5.1 List of Organizations of Training Program

Name	Address	Telephone Number
Japan International Cooperation Agency (JICA)	Shinjuku Mitsui Building 2-1, Nishi-Shinjuku, Shinjuku-ku, Tokya	(03) 346-5311
Ministry of Transport (MOT)	2-1, Kasumigaseki, Chiyoda-ku, Tokyo	(03) 580-3111
Port and Habor Research Institute Ministry of Transport (RHRI)	3-1-1, Nagase, Yokosuka-shi, Kanagawa Pref.	(0468) 41-5410
Universities (Kyoto University)	Yoshida-Honmachi, Sakyo-ku, Kyoto-shi	(075) 751-2111
Mitsubishi Research Institute (MRI)	1-6-1, Otemachi, Chiyoda-ku, Tokyo	(03) 214-5531
Japan Maritime Research Institute (JMRI)	Kai-un Building 2-6-4, Hìrakawa-cho, Chiyoda-ku, Tokyo	(03) 265-5231

CHAPTER 6 INSTRUCTIONS

Practical information on the training program and life in Japan will be provided in advance to the SCA participants, and it is urged that instructions given should be carefully observed by the participants. In addition, special attention should be drawn to the following:

- 1) Participants are requested to observe the training program schedule.
- 2) It is urged that rules and regulations set forth by JICA will be carefully abided by.
- 3) For each training curriculum, it is requested that participants follow the instructions given to them by the training staff members in charge of the program.
- 4) It is strongly advised that participants spend a couple of hours a day on supplementary and preparatory study of the subject under study.
- 5) It is urged that whenever questions arise pertaining to the training program, participants should feel free to consult with the persons in charge.
- 6) It is requested that assignments given to any of the curriculum subjects during the training period in Japan and/or for the self-training program at the SCA be faithfully completed as instructed.
- 7) Life in Japan may be different in many respects and as the training program is very intensive and concentrated one must take care of one's health.
- 8) It should always be borne in mind that staff members of this training program will be available for whatever assistance may be needed.

 Please feel free to call upon the persons in charge whenever any problems arise.
- 9) Lecture notebooks or training texts will be prepared on each training curriculum and distributed in advance to participants. It is advised that they should be kept in a personal file as a source of reference because the official training texts to be printed later may not include all of the information written in the provisional texts.

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