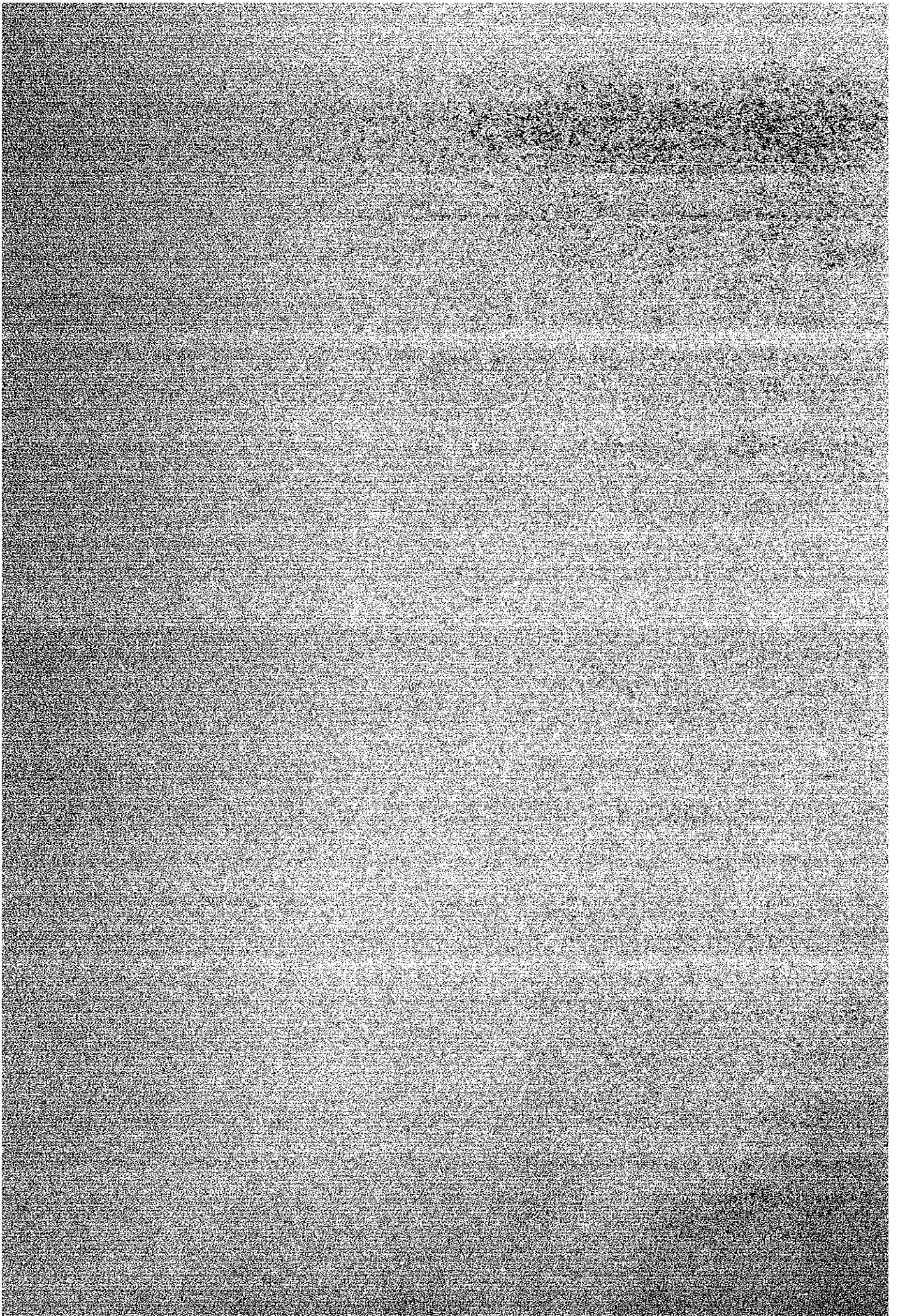


付属資料

1. 要請書 (TOR)
2. 質問書
3. S/W
4. ミニッツ
5. 収集資料リスト

1. 要 請 書



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Telephone } 24183
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Telex } FORAID
 } Colombo
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මගේ අංකය
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 My No.
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 இலக்கு அமைச்சு
 வெளிநாட்டு வள இணைக்களம்
 நிதி அமைச்சு
 DEPARTMENT OF EXTERNAL RESOURCES
 Ministry of Finance

හෙලේකම් කොමන්ඩරිල්ල (3වැනි හෙල)
 செயலகம், (3ம் தளம்)
 The Secretariat, (3rd Floor)
 ක. පො. 277, කොළඹ 1
 ක. ප. පො. 277, කොළඹ 1
 P. O. Box 277, Colombo 1
 19.89 August 23.

Mr. S. Murakami,
 First Secretary (Economic Co-operation),
 Embassy of Japan,
 Colombo 7

Dear Mr. Murakami

Master Plan Study : Port of Galle

Please refer to my letter dated 5th July 1989 forwarding you the Terms of Reference for the above Study.

I am sending herewith a further document giving guidelines for the Master Plan for your information and onward transmission to your authorities. It is also relevant to mention that most of the data pertaining to the Port of Galle, including the latest wind and wave data, soil data etc; is available in Colombo. Any up-dating of data such as the latest dredging data position and depths of rock outcrops etc; could be obtained by SLPA surveyors and made available in Colombo.

The development of Port of Galle has been assigned high priority by the Government in view of the beneficial impact it would have on the overall development of the southern region. We would, therefore, appreciate if this request receives your Government's very early consideration.

Yours sincerely,

(Signature)
 (S. Weerapana)
 Assistant Director,
 External Resources

1. Background

The port of Galle, one of the three major sea ports in Sri Lanka, is located about 120km south of Colombo and connected with the capital by roads and railway (Appendix-1). The port is ideally located along the main shipping routes and its hinterland has a large potential for development. In fact, the port had been the main entry to Sri Lanka before the establishment of Colombo port.

As shown in Appendix-3, the present Galle port is located in the inner eastern part of the bay, and is sheltered from the ocean by stone masonry breakwaters. The main port facilities consist of an approx. 400m long quaywall with depth alongside 7-8m and two(2) transit sheds. A fishery harbour, a yacht harbour, a slipway and a factory are located around the inner basin (See Appendix-4). Followings are the latest three(3) years cargo throughput of the existing port.

Table-1 Tonnage Handled at Galle 1986, 1987 and 1988

	('000Tonnage)		
Tonnage discharged	1986	1987	1988
Break Bulk	51.6	51.4	43.0
Dry Bulk	117.3	174.6	130.6
Total	168.9	226.0	173.6
Tonnage loaded	-	-	-
Total	168.9	226.0	173.6

Due to the various reasons investments for Southern provinces which has a population of about 1.9 million (815,000 in Galle, 644,000 in Matra, and 424,000 in Hanbantota*) has long been kept minimum and as the result this area becomes one of the most economically backward area of the country.

Since its inaguration at January 1989, the new Government has been placing the highest priority to the development of Southern provinces to eliminate social unrest caused by the privailing unemployment in the region. The presently adopted development plan prepared by Marga Insitute under ADB's sponsorship is composed of by three main stays namely, i) development of Galle port, ii) development of a new Free Trade Zone, and iii) large-scale provision of agricultural land to villagers.

* See Appendix-2

Although various studies on natural conditions and model experiments have been carried out by the Sri Lanka Port Authority a Master Port Development Plan has not yet been established.

The development of this Port should be planned with due consideration to Regional development of the Southern Province of Sri Lanka, where high priority development has been identified by Government.

As a nucleus of Regional Development, the Port of Galle can play significant role. The potential for industrial development already present such as ship scrapping combined with steel making by electric furnace, cement production by utilizing clinker transported by ship etc., can be enlarged with the Development of Breakwater which is a prerequisite for the development of Galle port and progress in Port construction work, together with suitable improvements to infrastructure.

2. Objectives of the Study

To formulate the masterplan for the development of Galle port as the spearhead of the regional development of Southern provinces. In the course of proposed study, preferably at the end of field survey determine the basic layout and design of main breakwaters which are considered the prerequisite for the development of Galle port.

3. Scope of Work

The study shall cover all the technical, operational management and economic analysis to the sufficient extent to achieve the objectives of the study, which may include field and material surveys, soil investigations, hydrological surveys, etc. The study shall consult all the available data and relevant study reports, and supplement these with field surveys and laboratory testing as necessary. The study shall be carried out in close consultation and cooperation with Sri Lanka Ports Authority (SLPA), Ministry of Trade and Shipping, and other relevant agencies. The study, among others, shall include the following items.

(1) Investigation on Natural Conditions

The field survey on natural conditions shall be carried out to supplement the available data and previous studies, including wave observations, soil studies, hydraulic model tests etc., to the extent required to achieve study objectives. This survey would include detailed sounding, locating of bed rock, seabed and subsoil analysis, identification of sunken vessels, wave studies and additional hydraulic model test.

(2) Traffic Forecast

The analysis on the future throughput and vessel traffic at Galle port shall be carried out taking into account the future trend of the industrial development in and around the port, and the overall development of the hinterland as well as future trend of seaborne traffic and shipping technology. In this relation, due consideration shall be given to the partial shifting of international container transshipment operation from Colombo to Galle. Particular attention also must be paid to the industrial development directly utilizing the existing good natural bay and port facilities.

(3) Industrial Forecast

The industrial mix which is likely and proper to locate in the port area shall be analysed in depth and determined taking into account the future trend of industrial structure in Sri Lanka as well as the possibility of foreign investment. In this respect following industries among others would be taken up:

- i) Cement production by utilizing imported clinker,
- ii) Ship scrapping combined with steel making by electric furnace,
- iii) Fertilizer bagging plant utilizing imported bulk fertilizer and, in the later stage, phosphatic fertilizer plant, and
- iv) coal-based thermal power station.

(4) The Masterplan for Galle port

Summarizing the above analysis, items (1), (2) and (3), the masterplan for the development of Galle port shall be drawn up, and the proper course of the future development of Galle port shall be determined.

The masterplan, among others, would cover following items:

1) Land use for industries in the Port area

Spatial and infrastructural requirements for the future industrial mix in the Port area shall be analysed based on the results of the Industrial Forecast. The land use plan for the industrial area in the Port shall be formulated taking into consideration all the relevant factors including the above analysed spatial/infrastructural requirements, production linkage between industries, port facility requirement and environmental aspects etc.

2) Port facility Plan

The port facility requirements and its layout to meet future traffic shall be examined and determined including breakwaters, berthing facilities, cargo handling plant and equipment, other back-up facilities such as storage facilities, navigation channel and basins and floating crafts, connecting roads and rail, utilities etc. in accordance with the forecasted vessel calls based on the traffic forecast. Maximum utilisation of the existing port facilities including their rehabilitation and modernisation as required should be also planned.

3) Preliminary designs of the port facilities

A preliminary design of the principal port facilities shall be carried out for the Master Plan of the port, including the required rehabilitation of the existing facilities.

4) Preliminary cost estimate

The construction cost of the port shall be estimated for the Master Plan in a preliminary manner, including the required rehabilitation of existing facilities.

5) Maintenance/Replacement Programmes

The maintenance/replacement programmes shall be formulated for the maintenance dredging of the navigation channel, plant and equipment and floating crafts for port operation. The cost incurred by these programmes shall also be estimated.

6) Port Management/Operation System

The analysis on port management and operation system shall be made to achieve efficient and high-quality port operation which may include staffing, introduction of the computerised documentation processing system and other reorganisation of the port management and operation system. The recommendations shall be made after due consultation with SLPA and other relevant agencies.

7) Implementation Schedule

Phased programmes shall be formulated to develop the port based on the master plan in a timely and orderly manner, and

8) Environmental Analysis

Environmental Aspect (Impact and Countermeasures as required) shall also be analysed on the qualitative basis.

In the course of the Master Plan study, due consideration should be given to the use of external resources. Private shipping lines financing their own berths shall be investigated in depth because of the geographical merit of the Port. Due considerations should also be given in the selection of the type of port facilities, breakwaters in particular, to the impact of the construction itself to the Regional Economy.

(5) Formulation of the Urgent Improvement Plan

The problem areas requiring urgent actions shall be identified and the urgent improvement plan shall be formulated as the first stage of the port development within the framework set by the master plan.

In formulating this urgent improvement plan, the more in-depth analysis than the masterplan shall be made covering all the items required in the masterplan study as indicated above. The target year of the urgent improvement plan shall be around 1997 and it will be determined in consultation with SLPA and other relevant Ministries.

The analysis shall also be made on the economic and financial viability of this urgent improvement plan.

1) Economic Analysis

A detailed cost-benefit analysis shall be executed to determine whether or not the urgent improvement plan can be justified from the viewpoint of the national economy, and the economic internal rate of return shall be estimated. The economic analysis shall include appropriate sensitivity tests.

For those benefits which cannot be measured in monetary terms, a qualitative analysis shall be executed.

2) Financial Analysis

In view of highly strategic nature of the proposed Galle port development, construction of breakwaters, channels and basins at the first stage development is inevitable to make this port functional. Financial analysis should include possible and most suitable financial arrangement to make this project financially viable.

(6) Timing and Reporting

The following reports shall be submitted to the Government of Sri Lanka

1) Inception Report:

This report shall include the program of the study and the survey schedule for Galle port.

2) Progress Report:

This report is to be prepared on the basis of the field survey in Sri Lanka at the end of the field survey, and will contain the provisional outcomes of the study. Basic layout of main breakwaters and their preliminary design shall be included in this report.

3) Interim Report:

This report shall contain the outcomes of the masterplan study as well as the general outline of the urgent plan and be submitted and explained to the Government of Sri Lanka within six months after completion of the field survey.

4) Draft Final Report:

This report shall be prepared as a draft of the Final Report including the masterplan and the urgent improvement plan for Galle port. This report shall be submitted and explained to the Government of Sri Lanka within five months after the receipt of its comments on the Interim Report. The Government

of Sri Lanka will provide its comments on the Draft Final Report within one month after receipt of the Report.

5) Final Report:

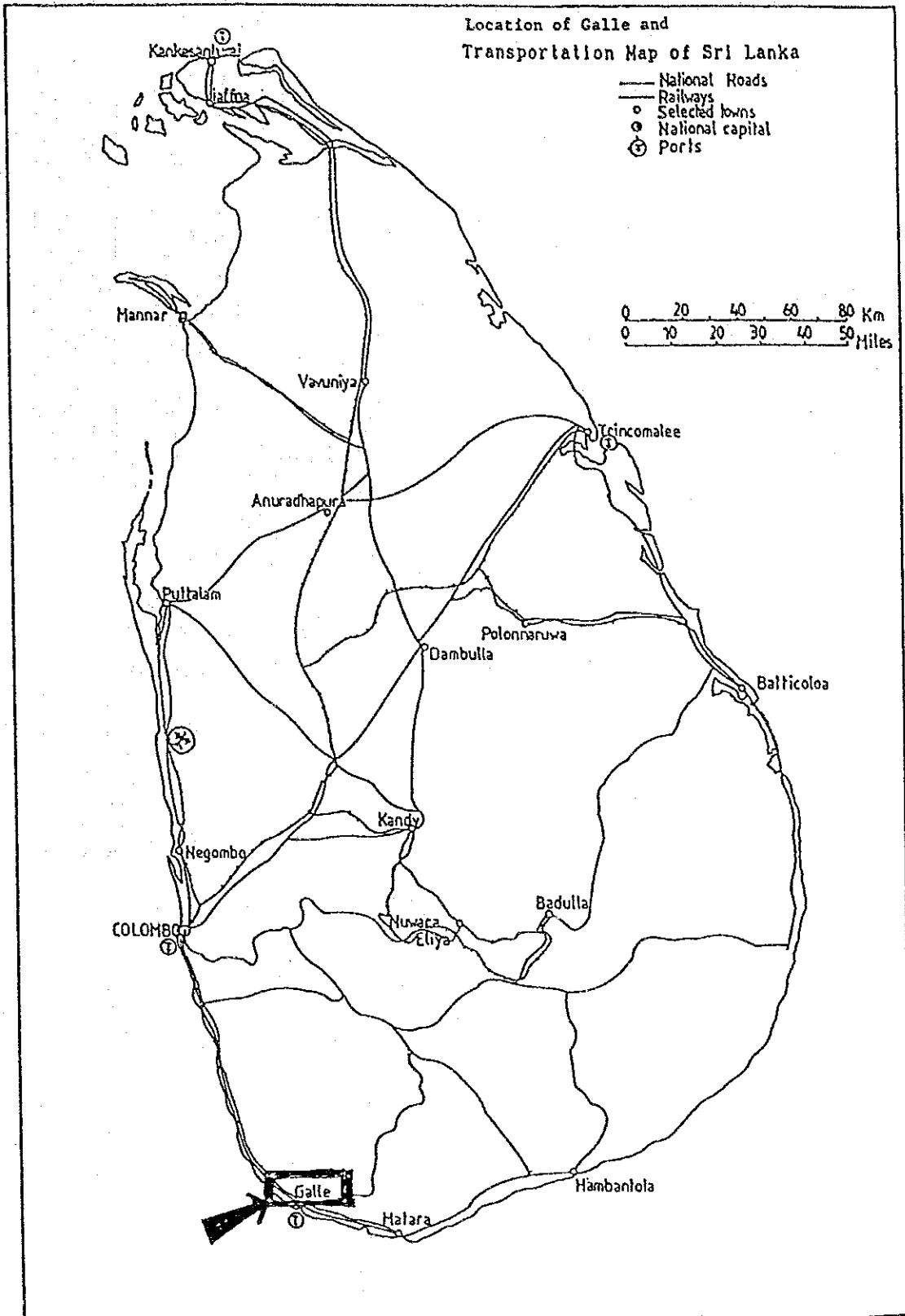
The Final Report shall be submitted to the Government of Sri Lanka within two months after the receipt of the Government's comments on the Draft Final Report.

The reports shall be made in English and distributed as follows:

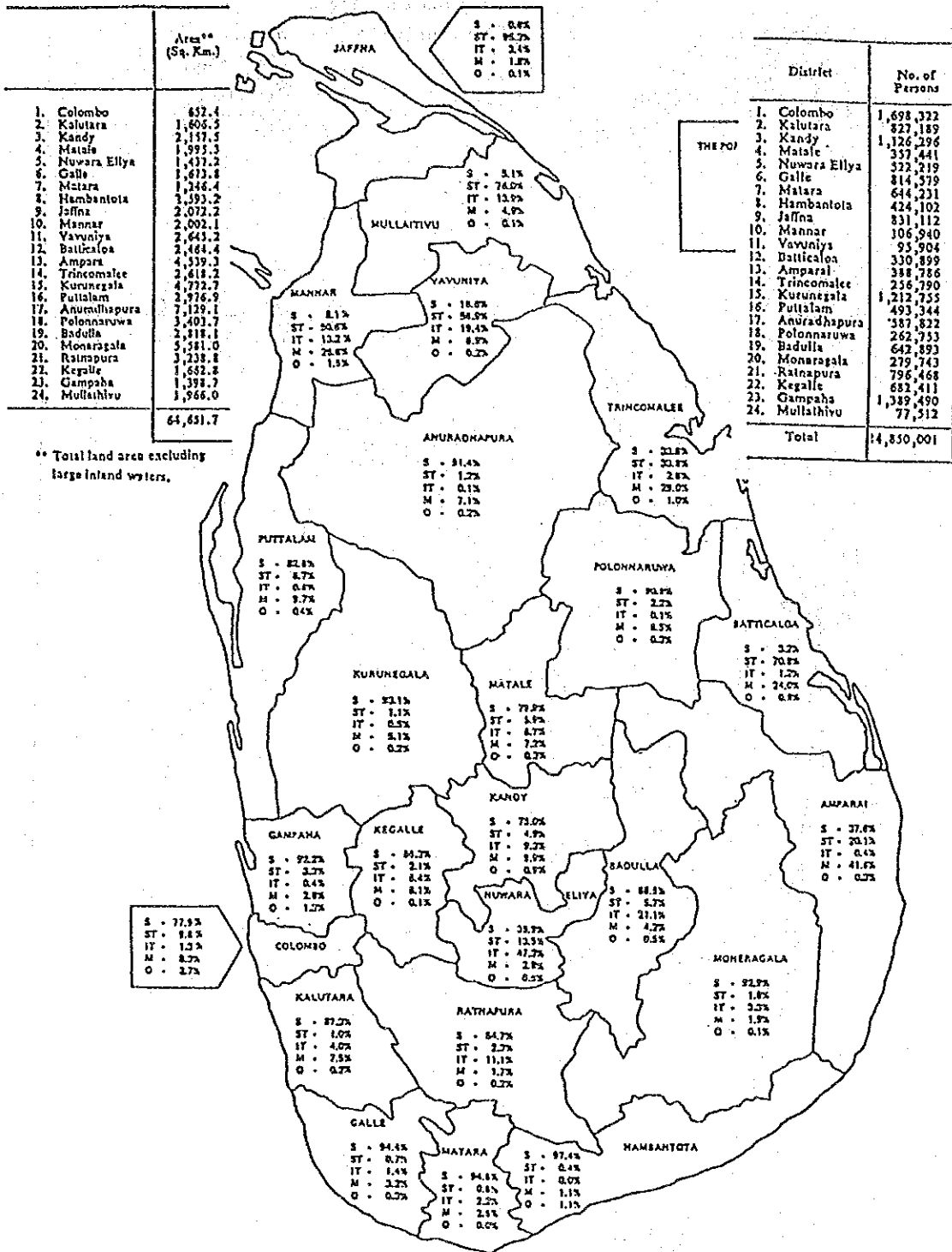
- (i) Inception Report : 50 copies
- (ii) Progress Report : 50 copies
- (iii) Interim Report : 50 copies
- (iv) Draft Final Report : 50 copies
- (v) Final Report : 100 copies

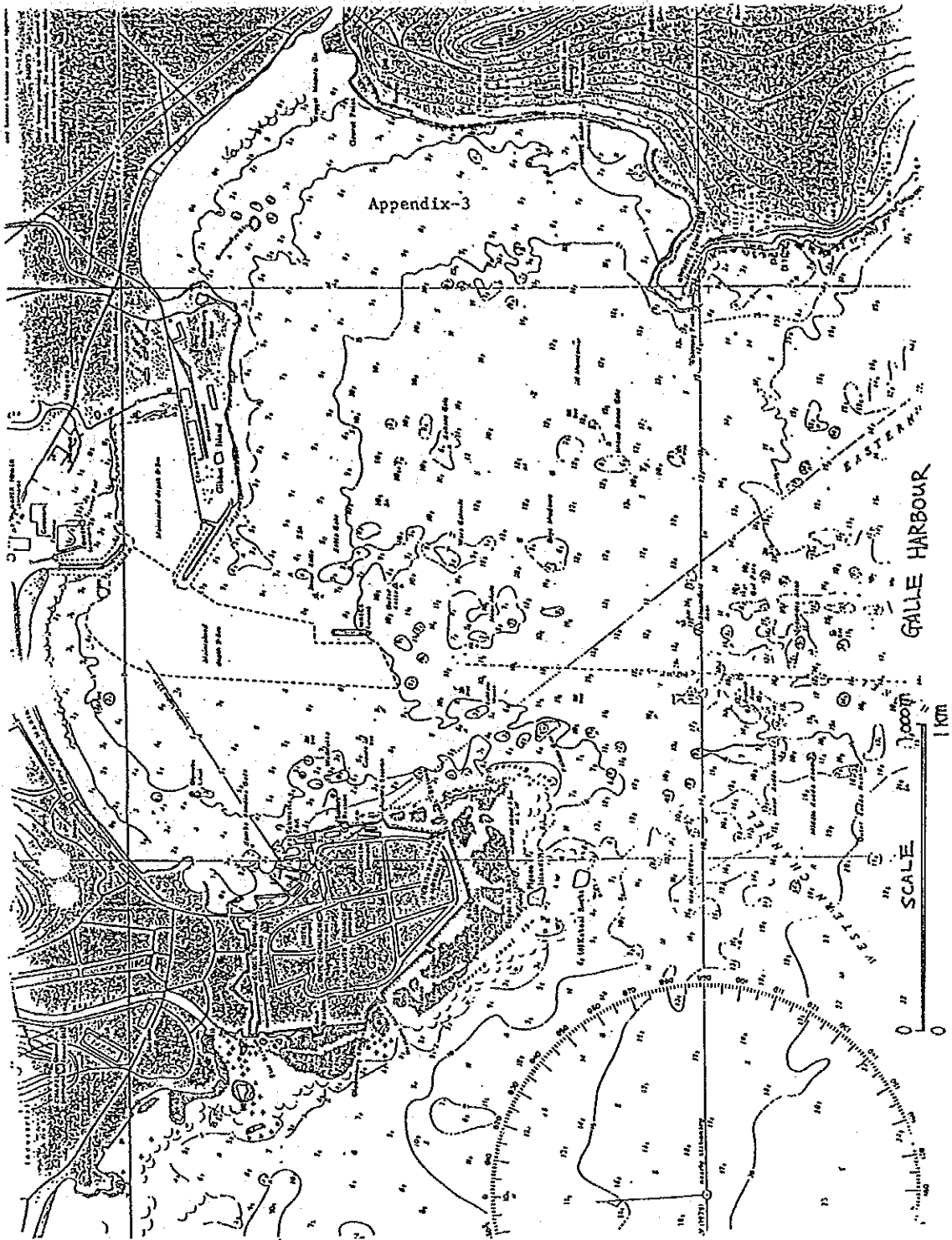
(7) Fund for the Study

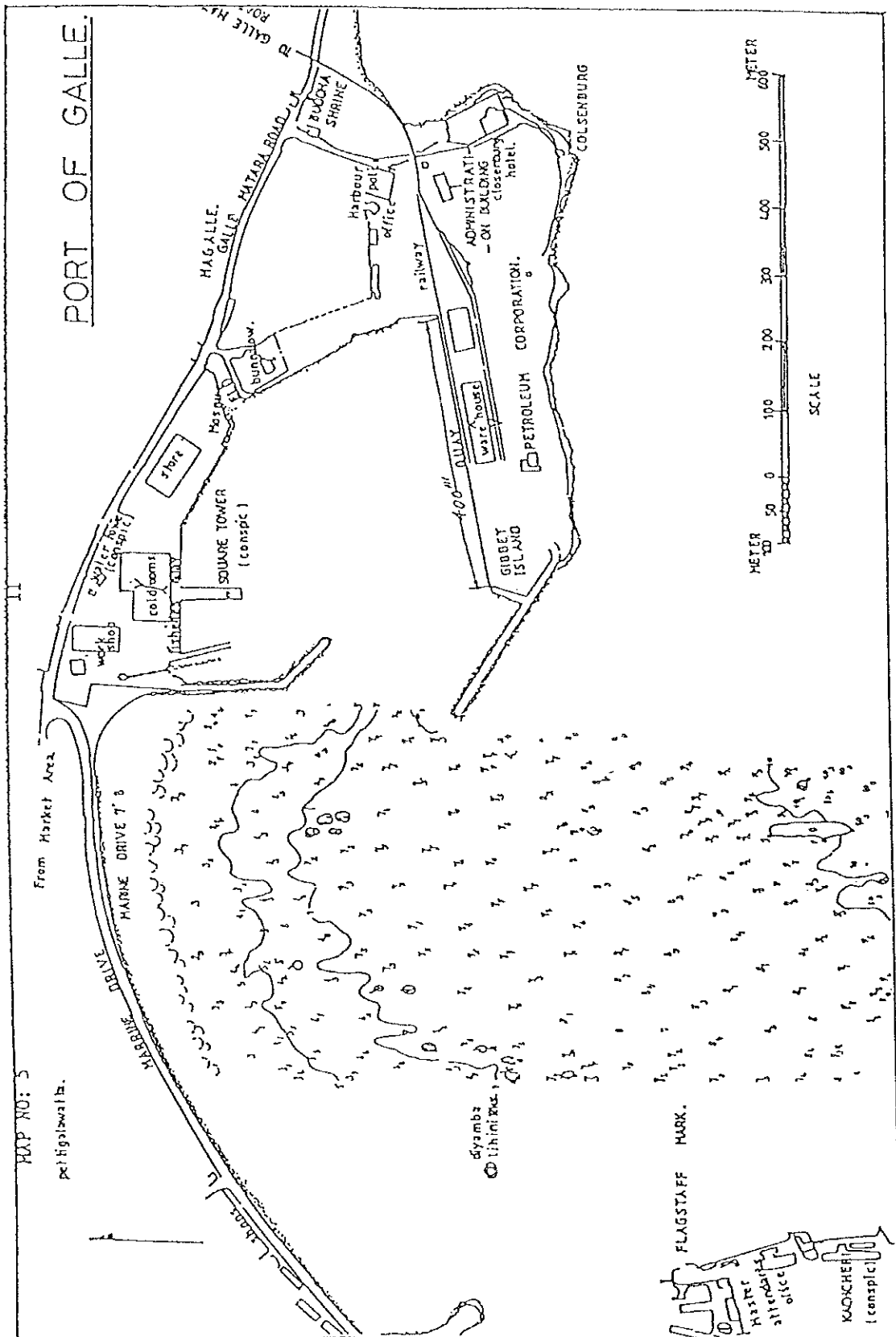
The Government of Japan is requested to bear all the cost and expenses necessary for the execution of the study while the Government of Sri Lanka will provide the Study Team every possible assistance required for the smooth execution of the study.



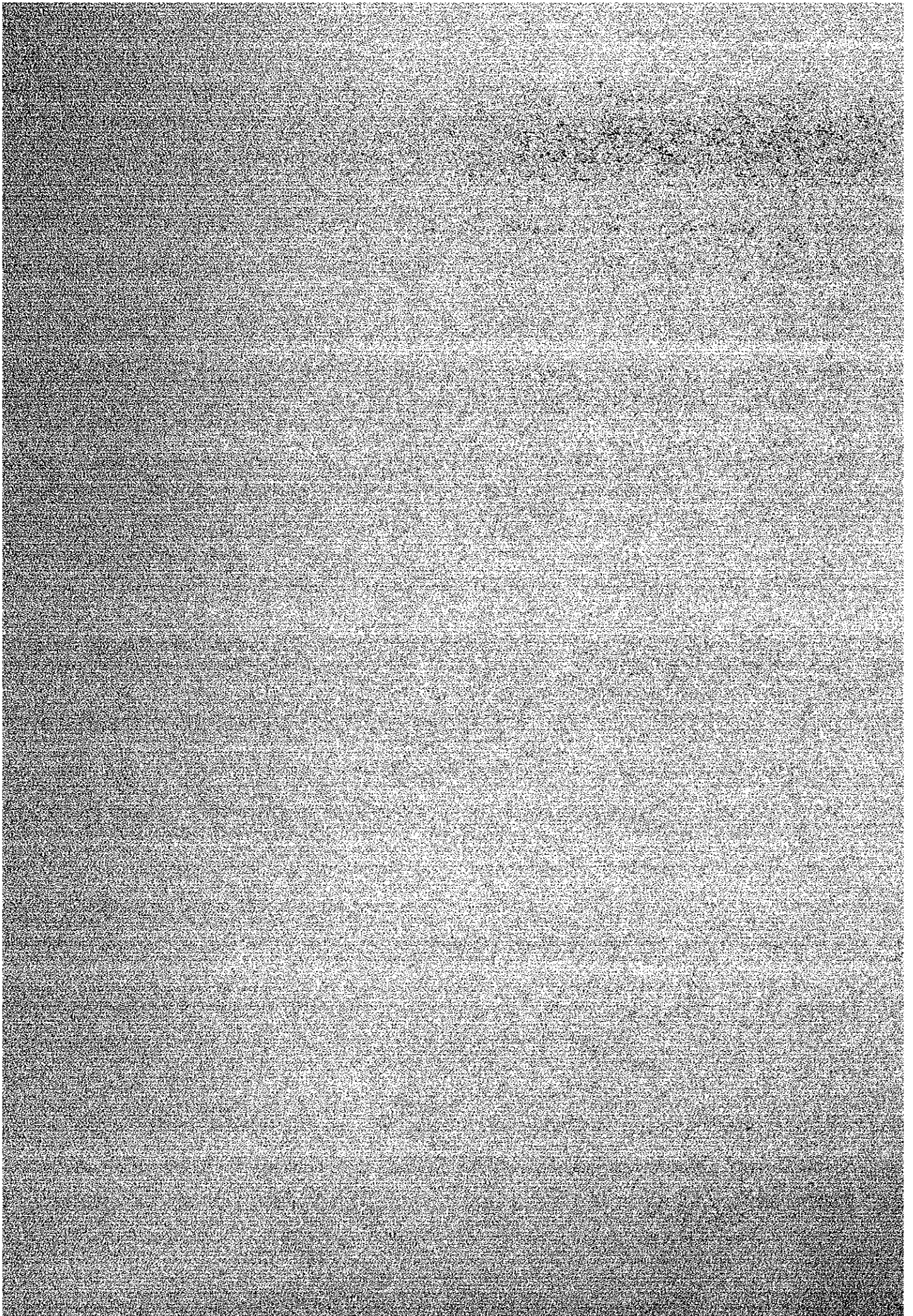
A MAP OF SRI LANKA WITH THE ADMINISTRATIVE DISTRICTS SHOWING THE DISTRIBUTION OF POPULATION - 1981 CENSUS







2. 質 問 書



Questionnaire

This questionnaire is prepared by the Japanese Preliminary Study Team (hereinafter referred to as the Team) for the Study on the Development of the Port of Galle in the Democratic Socialist Republic of Sri Lanka (hereinafter referred to as the Study) to obtain basic information and data necessary for the Study.

Since we have already obtained general socio-economic data and port statistics of Sri Lanka up to 1988 from our previous study on the Development of Colombo Port, we would like to collect data of especially Galle and southern provinces. However, we would also like to ask you if you could provide us some up-to-date socio-economic, port management and traffic data.

We would appreciate it if you could provide us with appropriate answers written in English and materials requested in this questionnaire.

1. Socio-economic data of the nation and the southern provinces

(1) Statistics of the last 5 years

- a) GNP
- b) Population
- c) Industrial, agricultural and mining products (by main sort)
- d) Foreign trade (quantity and value)

(2) National development plans

- a) Economic development plans
- b) Transportation development plans
- c) Industrial development plans
- d) Mining and agricultural development plans
- e) Forecast of socio-economic indicators

(3) Annual budget with breakdown

(4) Public investment by sector

2. Transportation systems

(1) Network maps of national transportation system (ports, roads, railways, commercial flights)

(2) Traffic flow data and forecasts of cargo/passengers by each mode

3. Port Activities in Sri Lanka

(1) Geographical distribution of ports

(2) Function and capacities of major ports

(3) Future development plan of major ports

(4) Port related budget

- a) Port construction budget
- b) Port maintenance budget

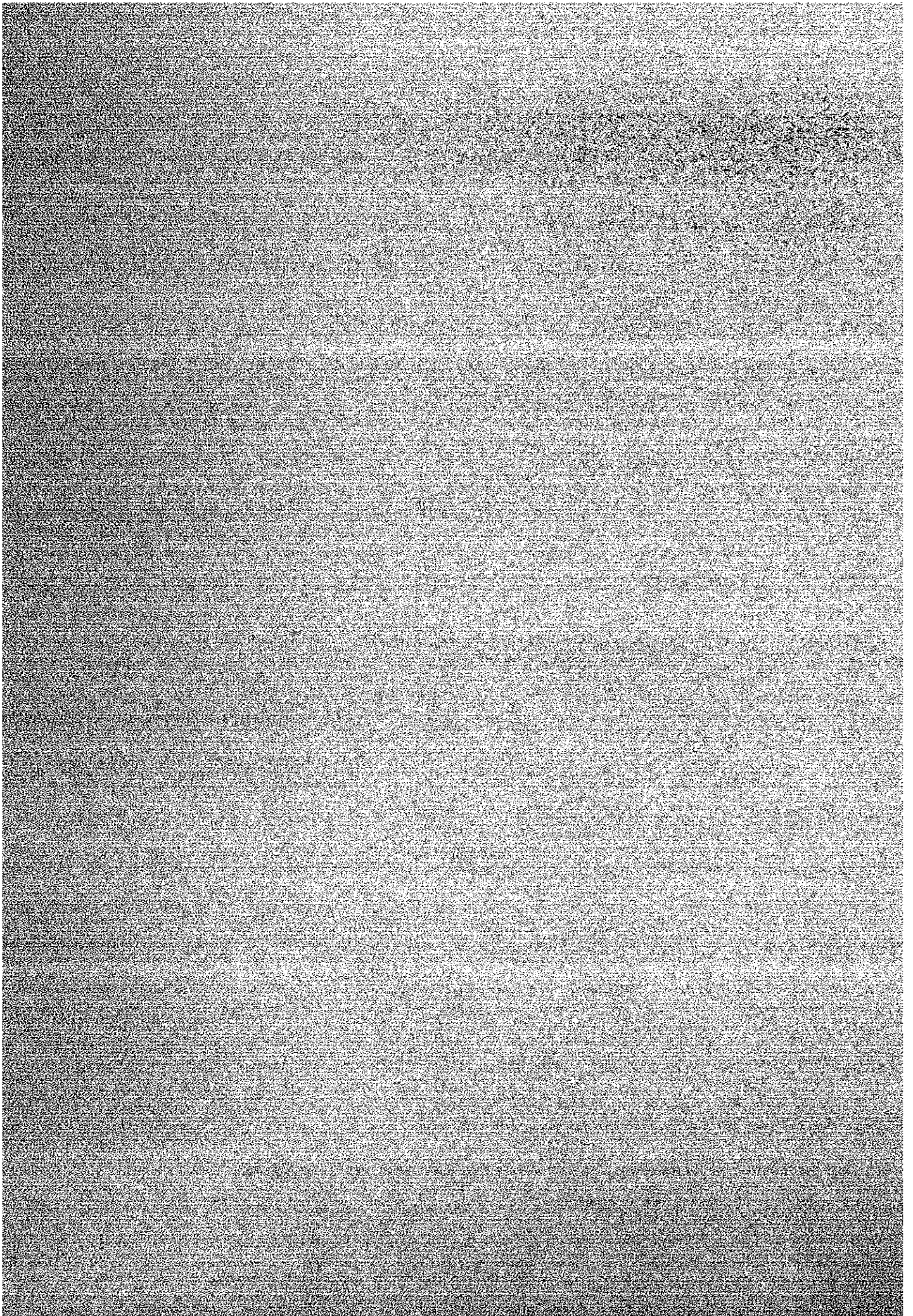
- (5) Port traffic statistics of major ports
 - a) Cargo volume
 - b) Vessels
- (6) Container cargo transportation
 - a) Container traffic at major ports
 - b) Container shipping services
 - c) Container terminal development plans
- (7) Origin and destination data for port cargoes
- (8) Port administration and management system
- (9) Related studies, if any

4. The Port of Galle

- (1) Port facilities
 - a) Layout of facilities (on scale of 1/1,000)
 - b) Inventory of facilities (type, dimensions, completion date)
 - Channel and navigational aids
 - Mooring facilities
 - Storage facilities
 - Cargo handling equipment
 - Access roads
 - c) Construction year for main facilities
 - d) Technical standards for port facilities
 - Design criteria
 - Material and construction standards
- (2) Natural conditions
 - a) Meteorological conditions
 - wind data (wind speed, direction), climate
 - b) Hydrographic conditions
 - wave data, tidal current data
 - tidal level data, siltation data, erosion data
 - c) Topographic conditions
 - topographical map and/or aerophotograph in and around the port
(1/1,000 ~ 1/2,000 and 1/10,000 ~ 1/50,000)
 - d) Geological conditions
 - boring data, results of soil tests
 - sounding data, riverbed materials
 - e) Earthquake data
 - list of recorded earthquakes
 - seismic coefficient
 - f) Cost of investigation and survey
 - boring, soil laboratory test, soil field test
 - topographical survey, salary for consultants
 - g) List of consultants
- (3) Land and coastal use in and around the port
 - a) Land use at present and future development plan
 - b) Main industrial facilities

- c) Transportation facilities and their development plans
- (4) Cargo traffic
 - a) Cargo traffic statistics for the last 5 years
 - b) Origins and destinations of cargoes handled at the port customs data available for this analysis
- (5) Ship statistics (type and size) for the last 5 years
- (6) Passenger traffic for the last 5 years
- (7) Cargo handling system
- (8) Financial condition
 - a) Port tariffs
 - b) Five year and annual budget
 - c) Financial statements
- (9) Development/improvement plan
 - a) Implementation schedule
 - b) Basic policy and traffic forecast
 - c) Major components of the plan and investment requirements
- (10) Related studies and plans
- 5. Industrial development in the southern provinces
 - (1) Industrial development policy
 - (2) Present condition of industries
 - (3) Industrial development plans
 - a) Development plan prepared by Marga Institute
 - b) Free Trade Zone
 - c) Others
- 6. Present condition of navigational safety in and around the port
 - (1) Data on marine accidents
 - (2) Data on sunken vessels
 - (3) Current problems in navigation
- 7. Environmental policy
 - (1) Governmental policy for environmental issues
 - (2) Institutional aspects
 - a) Law and regulation
 - b) Environmental criteria
 - c) Related organization

3. S/W



SCOPE OF WORK

FOR

THE STUDY

ON

THE DEVELOPMENT OF THE PORT OF GALLE

IN

THE DEMOCRATIC SOCIALIST REPUBLIC OF

SRI LANKA

AGREED UPON BETWEEN

JAPAN INTERNATIONAL COOPERATION AGENCY

AND

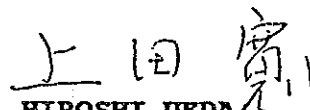
THE SRI LANKA PORTS AUTHORITY

DATED THE 10TH OF APRIL 1990


A. de VASS GUNAWARDENA

Chairman

Sri Lanka Ports Authority


HIROSHI UEDA

Leader

Preliminary Study Team,
Japan International
Cooperation Agency

I. INTRODUCTION

In response to a request from the Government of the Democratic Socialist Republic of Sri Lanka (hereinafter referred to as "Sri Lanka"), the Government of Japan decided to conduct a Study on the Development of the Port of Galle (hereinafter referred to as "the Study") in accordance with the relevant laws and regulations in force in Japan.

Accordingly, 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 undertake the Study in close cooperation with the authorities concerned of the Government of Sri Lanka.

The Sri Lanka Ports Authority (hereinafter referred to as "SLPA") shall act as the counterpart agency to the Japanese study team and also act as the coordinating body with other relevant organizations for the smooth implementation of the study, on behalf of the Government of Sri Lanka.

This document sets forth the Scope of Work for the Study.

II. OBJECTIVES OF THE STUDY

The objectives of the Study are:

- 2.1 To prepare a Masterplan for the development of the Port of Galle (hereinafter referred to as the Port) up to the year 2005, for spearheading the regional development of Southern provinces.
- 2.2 To conduct a Feasibility Study of the Short Term Development Plan for the Port within the framework of the Masterplan. The short Term Development Plan shall be prepared for the period up to the year 1997 considering the adequate arrangement of the main breakwaters and channel alignment to secure the safe navigation of the vessels as an urgent necessity.

III. SCOPE OF THE STUDY

In order to achieve the above objectives, the Study shall cover the following items;

3.1 Preliminary Works;

- (1) Analysis of the Existing Data and Information, and the Collection of Additional Data;

(2) Field Survey and Analysis;

- 1) Survey of the present physical conditions of the facilities and the coastal areas adjacent to the Port;
- 2) Oceanographic Survey;
- 3) Hydrographic Survey;
- 4) Observation of operational conditions of facilities and plant;
- 5) Geotechnical Survey;

3.2 Formulation of Conceptual Alternatives;

- (1) Evaluation of the potential for coastal area development;
- (2) Analysis of the future industrial development;
- (3) Projection of the type and size of industry to be located in the coastal area adjacent to the Port up to the year 2005;
- (4) Examination of the role and function of the Port;
- (5) Traffic projections up to the year 2005, including an analysis of the shift of traffic from the Port of Colombo;
- (6) Formulation of conceptual alternatives;

3.3 Formulation of the Masterplan;

- (1) Preparation of the basic layout plans of the major port facilities and relevant infrastructure of the Port;
- (2) Preparation of rough designs;
- (3) Preparation of approximate cost estimates;
- (4) Examination of technical feasibility and social impact;
- (5) Preparation of implementation programs;
- (6) Consideration of environmental aspects;

3.4 Formulation of the Short Term Development Plan;

- (1) Detailed traffic projections up to the year 1997;
- (2) Preparation of layout plans of port facilities and other relevant infrastructure;

- (3) Preparation of the preliminary structural designs;
 - (4) Preparation of the implementation program;
 - (5) Preparation of cost estimates;
- 3.5 Feasibility Analysis of the Short Term Development Plan;
- (1) Economic Analysis;
 - (2) Financial Analysis;
 - (3) Sensitivity Analysis;
 - (4) Recommendations on Port Management and Operation Systems.

IV. STUDY SCHEDULE

The Study will be conducted in accordance with the attached tentative schedule.

V. REPORTS

JICA shall prepare the following reports in English and submit them to the Government of Sri Lanka.

- 5.1 Inception Report (50 copies)
This report will describe the overall approach and implementation program of the Study and will be submitted at the commencement of the first field survey.
- 5.2 Progress Report (50 Copies)
This report will be submitted within 3 months after the commencement of the fullscale study and will contain the provisional outcome of the first field survey.
- 5.3 Interim Report (I) (50 copies)
This report will be submitted within 6 months after the commencement of the full-scale study and will include the outline of the Master Plan.
- 5.4 Interim Report (II) (50 Copies)
This report will be submitted within 9 months after the commencement of the full scale study and will include the outline of the short term development plan.
- 5.5 Draft Final Report (50 Copies)
This report will be submitted within 11 months

after the commencement of the full scale study and will present a draft of all the result of the study.

The Government of Sri Lanka shall provide JICA with written comments in English on the Draft Final Report within 1 month after the receipt of the Draft Final Report.

5.6 Final Report (100 Copies)

This report will be submitted within 2 months after the receipt of the written comments on the Draft Final Report from the Government of Sri Lanka and will contain all the essential recommendations, results and findings of the Study.

VI. UNDERTAKINGS OF THE GOVERNMENT OF SRI LANKA

1. To facilitate the smooth conduct of the Study, the Government of Sri Lanka shall take necessary measures:
 - (1) To secure the safety of the Japanese Team;
 - (2) To permit the members of the Japanese Study Team to enter, leave and sojourn in Sri Lanka for the duration of their assignment therein and exempt them from alien registration requirements and consular fees;
 - (3) To exempt the members of the Japanese Study Team from taxes, duties and any other charges on equipment, machinery and other materials brought into Sri Lanka for the conduct of the Study;
 - (4) to exempt the members of the Japanese Study Team from income tax and charges of any kind imposed on or in connection with any emoluments or allowance paid to the members of the Japanese Study Team for their services in connection with the implementation of the Study;
 - (5) to provide necessary facilities to the Japanese Study Team for the remittance as well as utilization of the funds introduced into Sri Lanka from Japan in connection with the implementation of the Study;
 - (6) to secure permission for entry into private properties or restricted areas for the conduct of the Study;
 - (7) to secure permission for the Japanese Study Team to take all data and documents (inclu-

ding photographs) related to the Study out of Sri Lanka to Japan;

- (8) to provide the medical services as needed. Its expenses will be chargeable on members of the Japanese Study Team.
2. The Government of Sri Lanka shall bear claims, if any arises against the members of the Japanese Study Team resulting from, occurring in the course of, or otherwise connected with the discharge of their duties in the implementation of the Study, except when such claims arise from gross negligence or willful misconduct on the part of the members of the Japanese Study Team.
3. SLPA shall, at its own expenses, provide the Japanese Study Team with the following in cooperation with relevant organizations:
 - (1) Available data (including maps) and information related to the Study;
 - (2) counterpart personnel;
 - (3) suitable office space with office equipment and furniture;
 - (4) credentials or identification cards;
 - (5) vehicles with drivers.

VII. UNDERTAKING OF JICA

For the implementation of the Study, JICA shall take the following measures:

1. To dispatch, at its own expense, the Study Team to Sri Lanka;
2. to pursue technology transfer to the Sri Lanka counterpart personnel in the course of the study.

VIII. CONSULTATION

JICA and the SLPA shall consult with each other in respect of any matter that may arise from or in connection with the study.

TENTATIVE SCHEDULE

Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Work in Sri Lanka	—		—				—		—		—			
Work in Japan	—		—			—		—			—		—	
Report Presentation	△ IC/R		△ PR/R			△ IT/R(I)			△ IT/R(II)			△ DF/R		△ F/R

IC/R : Inception Report
 PR/R : Progress Report
 IT/R : Interim Report
 DF/R : Draft Final Report
 F/R : Final Report

