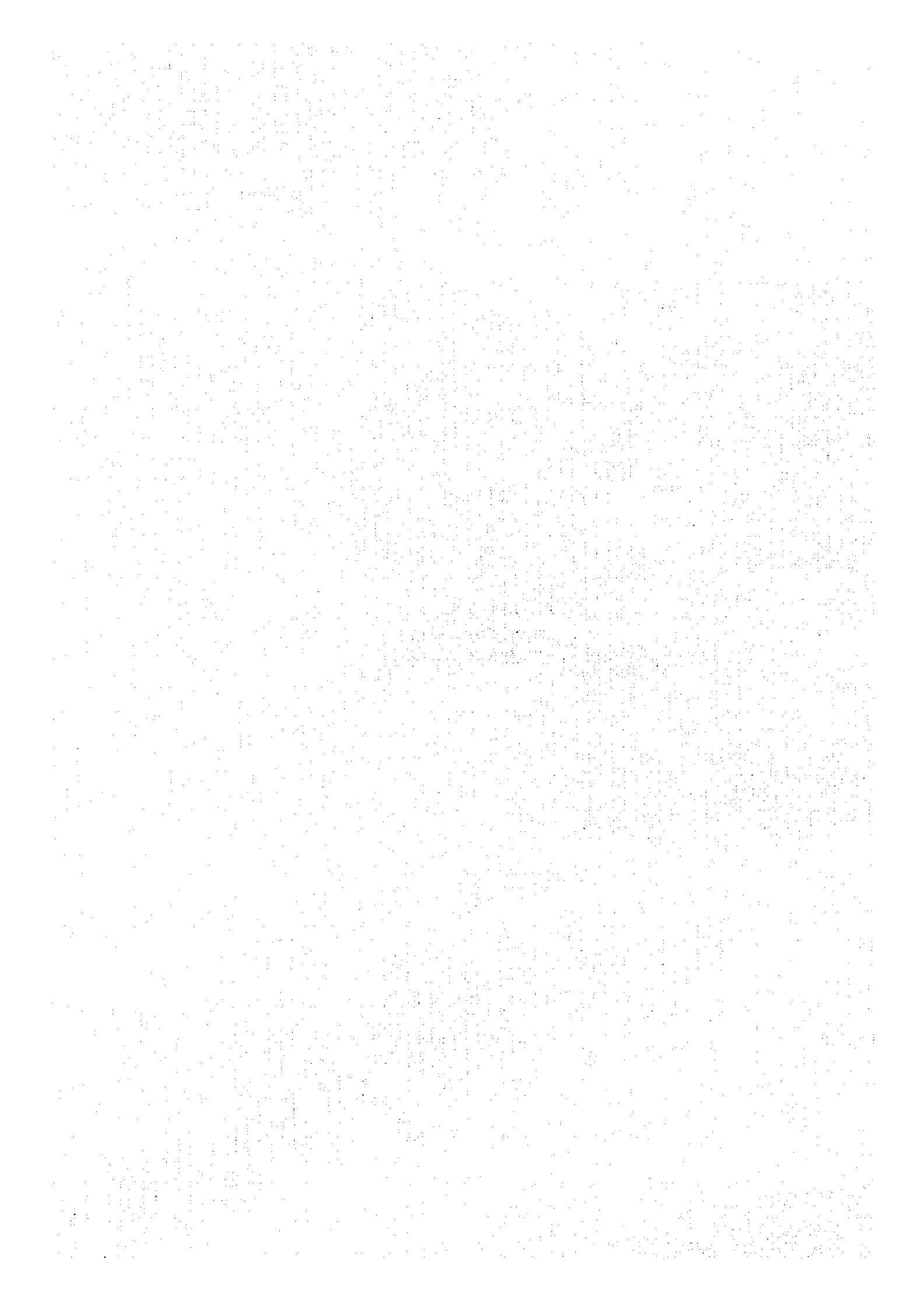


## 付 属 資 料

- ① 要請書
- ② I/A
- ③ M/M
- ④ 予備調査報告（総括）
- ⑤ Q/N
- ⑥ 現場写真
- ⑦ 収集資料リスト  
収集資料対比表



① 要請書

SUBIC BAY METROPOLITAN AUTHORITY  
Terms of Reference

SUBIC BAY PORT MASTER PLAN

I. INTRODUCTION

1. The Subic Bay Special Economic and Freeport Zone is administered, managed and operated by the Subic Bay Metropolitan Authority (SBMA). The Zone was established under the Bases Conversion and Development Act (Republic Act 7227) and covers an estimated total land area of 60,000 hectares and a water area of 9,525 hectares. Currently, development is limited to the area formerly occupied by the U.S. Naval Base (known as the Subic Bay Freeport or SBF) which covers an area of about 15,000 hectares. The SBF is situated in the northwestern corner of Bataan Peninsula, sandwiched between Subic Bay and the Zambales Mountain Range. The mountain range protects the area from the monsoons from the northeast while the bay provides an excellent and well-protected harbor that opens up to the South China Sea.

2. Economic activity in the Subic Bay Freeport (SBF) to date has been impressive and has exceeded earlier expectations. Investments totaling over US\$900 million has been approved and additional investments are forthcoming specially with the anticipated completion of the first phase of the Subic Bay Industrial Park by the middle of 1996. In addition, infrastructure activity has been brisk at the SBF. The existing Cubi Naval Air Station has been upgraded at a cost of over US\$40 million to strengthen the runways and to install state-of-the-art Navigational Aids equipment. Several road projects that are intended to improve access to the SBF are on-going and the Zone's utilities (power, water and sewerage, telecommunications) are being improved with the assistance of multi-lateral lending institutions and private entities. At present, total employment within the SBF stands at 23,000 and is projected to increase dramatically when more investments come on line.

3. Central to the continuing development of the freeport are the port facilities. These facilities present significant value-creation opportunities for the SBMA. However, key issues relating to the integrated port development strategy and commercial and ownership arrangements need to be resolved. Specifically, to meet the development objective needs of the SBMA, the business approaches need to be verified; the range of potential economic value created need to be evaluated; and the interrelated roles and institutional arrangements between the SBMA and potential operators need to be articulated. To address these key issues, a fully detailed development masterplan for the SBMA port facilities must be formulated.

4. The SBMA faces several challenges in the development of its port facilities. Potential investors are anxious to start operations and have put forward various proposals regarding their participation. In addition, the government and the citizens of

the Zone are eager to see increased commercial port activities at the SBF. The port facilities are currently being operated by the SBMA with limited participation from local cargo handling firms. The SBMA therefore has to rapidly design an integrated program that outlines the port development concept, the range of businesses that will be encouraged, the extent of participation of the parties involved, and the role of the private sector in building these businesses. Only with such a development strategy can the SBMA ensure that it is not foregoing significant value while responding to investor proposals. At the same time, this enables the SBMA to take a more proactive stance in packaging its various port facilities, approaching desired investors, setting commercial targets for different business activities, and structuring institutional arrangements and conditions.

## II. OVERVIEW OF SBMA FACILITIES

5. The facilities at the SBF were developed and operated to meet the needs of the U.S. military and do not lend themselves to modern cargo handling operations. Storage facilities were essentially meant for petroleum products, ammunition and naval stores. There are numerous buildings for workshops and offices as well as transportation, residential, recreational, educational, health care and community facilities. The majority of these facilities are old, designed to U.S. Navy standards and require a high level of maintenance. Table 1 is a summary of the existing facilities in the SBF.

Table 1. Inventory of Existing Facilities and Previous Use

ACTIVITY	NO. OF BLDGS.	GROSS FLOOR AREA (M2)	LAND AREA (HA)	PREVIOUS USES
Naval Station	473	213,760	326	administration, housing, commercial, recreation, temporary camps
Ship Repair Facility	68	92,940	27	dry-docks, ship repair and conversion
Naval Supply Depot	72	102,230	224	petroleum, oil, lubricant storage facility, warehouses
Public Works Center	900	343,866	1,161	administrative, housing
Naval Air Station	261	167,300	800	2,744 km. runway, 260,000 m <sup>2</sup> of apron parking

Naval Magazine	116	37,175	3,300	193 magazines and 50,186 m <sup>2</sup> of open pads
Naval Hospital	29	13,940	322	90 hospital beds
Grande Island	-	-	47	integrated hotel and recreational facility
Other	-	-	451	recreational facilities, miscellaneous
<b>TOTAL</b>	<b>1,919</b>	<b>971,211</b>	<b>6,658</b>	

6. As early as 1971, the creation of a freeport at Subic Bay was mooted by the local leadership and the citizens of Olongapo. With the withdrawal of the U.S. Navy in November 1992, the idea of a freeport regime was put into practice with the conversion of the naval installations to civilian use. The strategy for conversion is predicated on the maximum utilization of the existing buildings and structures in the immediate term and the development of new buildings and facilities to meet specific uses in the medium to long term. At present, a total of over 150 investors have signed up to utilize the existing facilities for industrial and commercial purposes. More investments are expected to pour in with the completion of key infrastructure projects such as the Subic Bay Industrial Park (Phase I-III), the commercial redevelopment of the Naval Station, and the rehabilitation of the Binictican Golf Course and the Subic Marina. The strong investor interest in the SBF has necessitated the rapid development of a modern commercial port at Subic Bay.

### III. OBJECTIVES OF THE STUDY

7. The objectives of this study are to:

- a. determine the extent and the manner in which the port facilities of Subic Bay may be developed and provide a conceptual master plan for the development of the port until the year 2020;
- b. establish a schedule of priorities and phasing for the various improvements in the proposed plan;
- c. create a graphic preliminary design of the SBF port facilities and prepare an implementation plan that provides a phasing schedule for additional port improvements to meet demand within a period of 25 years;

- d. identify institutional development measures that must be adopted to improve the operational efficiency of the port facilities; and

#### IV. SCOPE OF CONSULTING SERVICES

##### A. General

8. The consultants shall conduct all engineering work, physical surveys, the collection and analysis of operational, economic and financial data and other work herein described, as required to attain the objectives stated above. In the conduct of their work, the consultants shall collaborate closely with the SBMA, which has agreed to assign counterpart staff to work with consultants and to provide the data, services and facilities outlined in Part V herein.

9. The geographic scope of this study for traffic forecasts shall be the Asia-Pacific shipping routes as well as the impact on the domestic routes, particularly the routes which the SBF port facilities may service given its development as an international transshipment hub. The geographic scope of this study for operation analyses and advisory services shall cover the port facilities under the jurisdiction of SBMA.

##### B. Preliminary Review and Data Collection

10. The early stage of the Consultant's work requires a review of all data that shall impact on the development plan. The Consultants shall be solely responsible for the interpretation of all data and services received and for the findings and recommendation contained in their report.

11. The areas of study for the preliminary review and data collection include:

- i. Institutional Data. Research on the applicable rules and regulations governing seaport operations and development in the Philippines.
- ii. Economic Statistics. Research on the economic statistics that shall impact on the market position of the Subic Bay Freeport port operations and development.
- iii. Inventory of physical assets. An inventory of all assets associated with port operation and development including statements of capacity and capability. These include:

- a. Hydrographic and Sea Conditions

Hydrographic surveys shall be conducted at each port over areas sufficient to cover construction areas and access channels to berthing

facilities. The accuracy of these surveys shall be sufficient to estimate quantities of dredging (if required) with an accuracy of +/-10 percent.

b. Topography

Topography surveys shall be conducted on existing and potential port terminal areas, with sufficient detail to provide a sound basis for the planning and engineering work to be completed under this study.

c. Subsurface Investigations

The consultants shall conduct subsurface investigations at the locations of existing and future sites of terminal facilities and in areas where dredging may be required. The spacing and depth of borings, the sampling and testing shall be sufficient to determine with accuracy the conditions for dredging, pile driving, foundation construction and paving in the study of alternatives for port facility layout, preliminary engineering, and other work described herein below.

- iv. Commercial Data. Review of current commercial operations and potential for development. The consultants shall make an assessment of prospective shipping services to Subic Bay.

C. Market Analysis

12. A market-based approach is recommended in the preparation of a development masterplan for the SBF's port facilities. This approach will focus on the potential users of the facilities as well as the SBF's competitors. It will forecast the demand for the port facilities and will point out the directions pursued and problems faced by rival ports. The objective is to understand and gauge the potential of the SBF vis-a-vis its market and its competitors. Specifically, the consultants must accomplish the following:

- i. Identify present and future market traffic trends.

13. The consultants will assess the nature and behavior of various types of traffic over time in the light of current regional economic developments. In their assessment of market trends, the consultants must project regional and domestic traffic streams segmented according to relevant characteristics (by cargo type, by cargo handling mode, by origin and destination, etc.) until year 25.

14. The consultants shall prepare forecasts of cargo movements for the following:

- a. cargo generated by the economic activities at the Subic Bay Freeport, its immediate hinterland, Central Luzon, and Northern Luzon;

- b. cargo that could be diverted from the Port of Manila; and
  - c. international cargo that can be attracted with the development of the SBF port facilities as an international transshipment hub for the Asia-Pacific region;
15. The cargo forecasts shall indicate; (i) the regions of origin and destination of cargo within the Philippines and the Asia-Pacific region; (ii) the breakdown of cargo by major commodity groups; and (iii) an estimate of cargo tonnage to be moved to and from the SBF.
16. For the above, the consultants shall also prepare estimates of the economic cost of transport, indicating terminal costs and ocean shipping costs. Terminal costs shall include the capital and operating costs of the existing and proposed port facilities to be used by the traffic and the vessel service time and waiting time costs expected to be incurred.
17. Using the above forecasts of commodity flows in foreign and domestic trade, the consultants shall estimate the amounts of traffic that could be handled by mode viz. dry bulk, liquid bulk, containers, break bulk general cargo, ro-ro and passengers in years 5, 10, 15, 20 and 25.
18. Estimates of containerizable cargo shall be expressed in tons of exports and imports, and in numbers of outbound and inbound container units (TEUs)<sup>1</sup> (this shall include movements of empty containers).
19. It is not expected that a mathematical model of simulation of traffic flows will be available to the consultants for purposes of this analysis. To the extent necessary for forecasting movements of cargo under alternative systems, the consultants shall make assumptions on the future characteristics and costs of regional/inter-island shipping and inland transport modes, based on their own assessment of material to be made available by others; the main assumptions, however, shall be discussed and agreed with the SBMA Finance, Port Operations and Strategic Planning departments prior to their incorporation in the analysis.
20. In their preparation of traffic forecasts, the consultants shall also review:
- a. the traffic flow projections made by various recent studies to be provided to the consultants; and
  - b. the prospective developments through the year 2005 of transport modes (sea, air, land) within the Philippines as foreseen by the SBMA and by the agencies responsible for each transport mode.

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<sup>1</sup> TEUs: Twenty-foot Equivalent Units.



ii. Establish SBF Competitive Positioning

21. After an examination of cargo traffic streams, the consultants will seek to establish the incentives required to attract these traffic streams. An assessment of competitor facility and capability will be made using these characteristics. The consultant will highlight the SBMA's competitive advantages, identify improvement areas and opportunities, and evaluate the SBF's ability to attract demand on a sustained basis. Specifically, the consultants will collate the following information:

- a. competitor facility information: size, port lay-out, capacity, major equipment, personnel, etc.
- b. port traffic: inbound and outbound cargo flows (current and projected) segmented by type, ship calls
- c. economic information: port rates and tariffs, vessel service time, range of services offered, private sector involvement in port operations

iii. Demand/Capacity Analyses and Facility Requirements Study

22. Apart from the market analysis and the competitive positioning, the Consultant shall determine the facilities required for the development of the ports. Likewise, the Consultant is expected to identify the periods of significant investments particularly on the first five (5) years.

23. Based on their forecasts of vessel characteristics and volume of cargo by handling mode, the consultant shall determine the operation and space requirements for installation of modern terminal facilities according to the following cargo handling modes: containers, break bulk general cargo, dry bulk, ro-ro and passengers.

24. On the basis of the traffic forecasts and flow analyses mentioned above, and taking into account the initial results of concurrent analysis of present cargo operations, the consultants shall prepare and analyze alternative layouts for the port terminal development. These analyses shall be comprised of: (i) a forecast of all cargo handling operations within the port area; (ii) a preliminary estimate of capital and operating costs; (iii) a determination of operational features and the impact on cargo and vessel operations in adjacent terminal areas; and (iv) an assessment of economic benefits. This shall result in the selection of the most effective and economical terminal configuration for the handling of cargo passing through the SBF port facilities.

iv. Preliminary Economic Analyses

25. The preliminary analysis of economic benefits and costs for the proposed port development shall be based on the hypothetical projections of traffic (refer to Section IV,

para. 13-20). Benefits to be considered shall include savings in overall transportation cost and net gains to the economy that are expected to be directly attributable to the proposed facilities (as compared to present facilities). Particular consideration shall be given to benefits arising from improvements in the transportation and marketing of Philippine exports. Benefits may also include savings from:

- a. lower cargo losses in transit and;
- b. reduced turn-around time for vessels and trucks using the port.

Quantifiable benefits from increased economic activities attributable to the project may also be considered. Cost shall include final engineering, construction, equipment acquisition, physical contingencies and administration.

26. The analysis of economic benefits and costs shall be presented in detailed tabulation for each year of the period through year 25. The consultants' economic evaluation for the selected alternative shall include determination of the economic internal rate of return (EIRR), defined as the interest rate at which future benefits and cost are equal. An assessment shall be made of the proportion of benefits that will accrue to the economy of the Philippines in general and of Subic Bay in particular, and the consultants shall conduct a sensitivity analysis, showing the variation of the EIRR under various assumptions on traffic and project costs.

#### D. Business Development Plan

##### i. Over-all Impact of the Business Development Plan

27. The Consultant is expected to provide the SBMA with the Business Development Plan integrating, among others, the capital investment and the privatization option. The Plan should be detailed annually until year 15.)

28. The Consultant is also expected to determine the impact of the Business Development Plan in terms of the institutional, socio-economic, financial and the commercial aspect. The primary concern of the SBMA is the immediate impact of the port development to the over-all development of the freeport vis-a-vis Central Luzon.

29. Further, the Consultant should present to SBMA the commercial package of the development indicating the over-all financial gain over the concession period. The optimal solution should balance the maximum value of the SBMA assets, minimize the cost to the consumer to maintain the marketability of the Subic Bay ports, maximize the profitability of any private operator/manager within reasonable levels and ensure an efficient and reliable operation of the port.

30. Based on the foregoing, the consultants shall make a final economic analysis of the main options for terminal development and operational improvements for cargo

movements through the existing port facilities. Using the economic criteria outlined above, the consultants shall formulate a recommended development program through the year 15 and calculate the resulting economic rates of return. In addition, major risk elements shall be indicated, and the final economic analysis shall include the appropriate sensitivity tests.

31. The recommended program shall be presented with operational summaries, facility development plans, preliminary engineering designs and equipment performance specifications for which investments are proposed. The program shall give the estimated capital cost of the proposed development; with breakdowns showing major facility and equipment components. The estimate shall also include costs of engineering, construction, supervision and other consulting services required for project implementation.

ii. Institutional and Regulatory Framework

32. The Consultant is expected to draft the institutional and regulatory framework whose primary purpose is to ensure the marketability of the Subic Bay ports and the provision of reliable and efficient service.

33. The Consultant should advise on the organization structure, mission statement, operational structure and function of the regulatory body. Further, the framework should identify the control parameters of port operation and development.

V. TIME SCHEDULE AND REPORTING REQUIREMENTS

34. The consultants shall mobilize their team in Subic Bay within one week of the Starting Date.

35. The consultants shall prepare submit the following reports to SBMA within the time periods and in quantities indicated:

	NUMBER OF COPIES	
	TO SBMA	(In Months from Starting Date)
Inception Report	10	1
Site Survey Report	10	1
Progress Report	10	( <sup>2</sup> )
Market Survey Report	10	2.5

<sup>2</sup> At monthly intervals, after submission of the Inception Report.

Interim Report	30	3
Conceptual Design	10	3
Institutional Assessment	10	4
Business Plan	10	4
Tariff Review	10	5
Draft Final Report	30	6
Final Report	100	( <sup>3</sup> )

36. All reports shall be in English.

37. The Inception Report shall summarize the consultant's initial findings and reflect a first assessment of available data and of site conditions at the port. In addition, it shall contain:

- a. an outline of the methodology the consultants propose to use in traffic forecasting and economic analysis (see Section IV, para. 13-20);
- b. the proposed program and budget for physical data collection and field surveys (see Section IV, para. 10-11), and
- c. an outline of work expected to be completed up to presentation of the first Progress Report.

38. The Site Survey Report shall contain an evaluation of the alternative sites within the Bay where future growth of the Subic seaport would be feasible. Each potential site shall be evaluated in terms of its suitability for developing wharves and backup area and its access to the inland transportation system. This examination would consider the available depth, exposure to wind and waves and channel access. The sites shall be classified in terms of the type of port activities which they would be suitable for and the difficulty in developing the site and the land access. Finally, a ranking of alternative sites shall be developed.

39. Progress Reports shall contain a brief summary of the work accomplished in the preceding month, an outline of work expected to be completed during the next progress reporting period, and the consultants' comments or recommendations on any unforeseen conditions that may affect the progress or quality of their work.

40. The Market Survey Report shall be made of the markets in which Subic might have a competitive advantage. These would include but not limited to domestic inter-

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<sup>3</sup> Within thirty calendar days of receipt of comments on the Draft Final Report from the SBMA and the Bank

island shipping, import and export trades from Northern Luzon, traffic diverted from Manila, regional transshipment and distribution services.

41. The Interim Report shall contain a summary of the findings and recommendations of the consultants on engineering and operational studies in the ports and traffic forecasts (Section IV, para. 11-20).

42. The Conceptual Design shall be prepared for the development of the marine terminal facilities within the Harbor. The existing wharves and the adjoining waterfront area shall be surveyed to determine their suitability for and limitations with respect to conversion to container, general cargo, warehousing, distribution, or dry bulk operations. The backup area shall also be surveyed to determine its suitability for storage and transfer of cargo. The plan shall provide alternative layouts for the facilities required to serve the markets identified in the market survey. The design shall also include preliminary costs the major infrastructure included in each design.

43. The Institutional Assessment report shall provide an evaluation of the SBMA in the areas of planning, operations, management, contracting, and marketing, in order to determine the strengths and weaknesses of the organization with regards to the development of the port. The areas in which the participation of the private sector would be necessary will be identified and the alternative arrangements under which they could be involved would be examined to determine the advantages and disadvantages. The functions that the SBMA would continue to perform shall be defined. The institutional strengthening required to effectively perform these functions shall be specified.

44. The Business Plan shall summarize the information collected on the potential markets, the proposed changes in the SBMA management, and the strategies available to increase the SBMA's market share. The Business Plan would identify the investments to be undertaken in the next five to seven years in order to attract additional demand. It shall also determine the cash flow which is expected to result from these investments and, based on this cash flow, their financial viability.

45. The Tariff Review shall review the current tariff structure, which is based on the Manila port tariffs, to determine its impact on demand as well as the expected return on the assets employed. The ability to allocate the revenues generated by specific activities would be examined, and a proposal would be prepared for restructuring the tariffs so as to relate the revenues from a service to the costs for providing that service.

## VI DATA, SERVICES AND FACILITIES TO BE PROVIDED BY THE SBMA

### i. Data

46. The SBMA has agreed to provide the consultants with access to all available data relevant to the Services and provide an inventory of such data. The data shall include (but not be limited to) the following:

- a. past reports prepared by or for Government agencies on related developments to be studied, waterborne transport, land transport serving ports, port operations and related supporting data;
- b. detailed information on the operations, data inputs and results of past and current traffic analyses (including transport systems and other models employed in forecasting);
- c. operating, maintenance and traffic data and operating accounts of SBMA and other agencies responsible for port activities;
- d. general plans of all port facilities to be studied;
- e. an inventory of all existing shore facilities and equipment;
- f. all engineering data available on shore facilities and channels in the port mentioned in (e) above, including construction plans and records, equipment specifications, test boring logs and soil laboratory tests, recent soundings; and
- g. results of recent condition surveys and proposed repair work on existing facilities in the port.

47. To the extent possible, SBMA will provide the above data from its own resources or from other agencies to the offices of the consultants within the first month of this study.

48. In addition, the SBMA will make arrangements for access by the consultants to all port facilities to be studied and to key officials in public and private agencies concerned with sectoral or regional planning, inland transport, shipping, ports operations and services related to ports.

ii. Services

49. The SBMA has agreed to provide the consultants during their stay in Subic Bay with the following services:

- a. soundings and topographic surveys of the port facilities in accordance with Section IV, para. II;
- b. survey control for testing borings to be performed by the Consultants;

- c. secretarial staff to assist the consultants' staff in Subic Bay consisting of one (1) bilingual secretary and two (2) typists full time for the duration of the Services in Subic Bay.
- d. unlimited local telephone service as required for the Services; and
- e. messenger service, as required.

iii. Facilities

50. The SBMA has agreed to provide the consultants during their stay in Subic Bay with the following facilities:

- a. suitable office space in Subic Bay for the consultants, the counterpart staff to be assigned by SBMA and related secretarial staff;
- b. suitable office furniture and equipment, including typewriters, calculators, reproduction machinery, utilities security and cleaning services; and
- c. office supplies, as required for the Services.

② VA

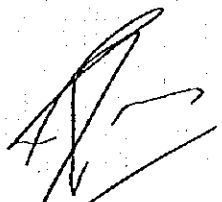
IMPLEMENTING ARRANGEMENT  
ON  
THE TECHNICAL COOPERATION  
FOR  
THE STUDY  
ON  
THE SUBIC BAY PORT MASTER PLAN  
IN  
THE REPUBLIC OF THE PHILIPPINES

AGREED UPON BETWEEN

SUBIC BAY METROPOLITAN AUTHORITY

AND


JAPAN INTERNATIONAL COOPERATION AGENCY



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Mr. Richard J. Gordon  
Chairman and Administrator  
Subic Bay Metropolitan Authority

Subic, 3 June 1997



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Mr. Naokazu Ito  
Leader  
Preparatory Study Team  
Japan International  
Cooperation Agency



## I. INTRODUCTION

In response to the request of the Government of the Republic of the Philippines (hereinafter referred to as "GOP"), the Government of Japan (hereinafter referred to as "GOJ") has decided to conduct the Study on the Subic Bay Port Master Plan in the Republic of the Philippines (hereinafter referred to as "the Study"), and exchange the Notes Verbales with GOP concerning the implementation of the Study.

Japan International Cooperation Agency (hereinafter referred to as "JICA"), the official agency responsible for the implementation of the technical cooperation programs of GOJ, will undertake the Study in accordance with the relevant laws and regulations enforced in Japan.

On the part of GOP, the Subic Bay Metropolitan Authority (hereinafter referred to as "SBMA") shall act as the counterpart agency to the Japanese study team and also as coordinating body in relation with other governmental and non-governmental organizations concerned for the smooth implementation of the Study.

The present document constitutes the implementing arrangement between JICA and SBMA under the above mentioned Notes Verbales exchanged between two governments.

## II. OBJECTIVES OF THE STUDY

The objectives of the Study are:

1. To formulate Master plan for the period up to the year 2020
2. To formulate phased implementation program for Master plan and carry out the feasibility study for the 1st phase plan
3. To carry out technology transfer to improve Subic Bay port development, management and operation
4. To identify additional areas for port development within Subic Bay Area.

## III. STUDY AREA

The Study shall cover Subic Bay Area.

## IV. SCOPE OF THE STUDY

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

1. Analysis of present conditions related to the Study

- (1) To collect data and information to review and analyze socio-economic, natural and environmental conditions
- (2) To review and identify current operational constraints of existing facilities of Subic Bay port
- (3) To review status of related regional development plan
- (4) To review SBMA strategic plan, SBMA's urban regeneration strategy and other relevant master plans

2. To conduct natural and environmental survey for the Study

3. Formulation of future development vision of Subic Bay Area

- (1) To formulate port development concept
- (2) To draw up conceptual zoning

4. Formulation of Master Plan for Subic Bay port ( target year 2020 )

- (1) To set up future role and function of Subic Bay port
- (2) To set up hinterland of Subic Bay port
- (3) To forecast integrated transportation demand of Subic Bay port up to the year 2020
- (4) To formulate basic layout plan of port facilities
- (5) To prepare preliminary cost estimation
- (6) To prepare preliminary economic analysis
- (7) To prepare initial environmental examination(IEE)

5. Phasing of implementation program for Master plan

- (1) To set up appropriate phasing of Master plan
- (2) To identify projects for the 1st phase plan up to the year 2005
- (3) To evaluate feasibility of the 1st phase plan based upon following works
  - 1) Preliminary engineering designs and cost estimation of port facilities
  - 2) Environmental Impact Assessment (EIA)
  - 3) Financial program
  - 4) Economic and financial analysis
  - 5) Overall evaluation for the 1st phase plan

6. Recommendation for effective port development, management and operation of Subic Bay port

- (1) To review institutional conditions for Subic Bay port development, management and operation system
- (2) To formulate concrete action program for port management and operation system
- (3) To recommend institutional and regulatory framework
- (4) To pursue a technology transfer for realization of the Study
- (5) To recommend marketing strategy for port promotion

## V. STUDY SCHEDULE

The Study, in principle, will be carried out within 13 month period in accordance with the attached tentative schedule.

## VI. REPORTS

JICA shall prepare and submit to GOP the following reports in English.

1. INCEPTION REPORT

Thirty (30) copies

Within one(1) month after the commencement of the Study

2. PROGRESS REPORT

Thirty (30) copies

Within four (4) months after the commencement of the Study

3. INTERIM REPORT

Thirty (30) copies

Within six (6) months after the commencement of the Study

4. DRAFT FINAL REPORT

Thirty (30) copies

Within eleven (11) months after the commencement of the Study

The Government of the Republic of Philippines will provide JICA with its comments within one (1) month after the receipt of the Draft Final Report.

5. FINAL REPORT

Fifty (50) copies

Within one(1) month after the receipt of the written comments on the Draft Final Report from GOP

## VII. UNDERTAKING OF GOP

In accordance with the Notes Verbales exchanged between GOJ and GOP, GOP shall accord privileges, immunities and other assistance to the Japanese study team and, through the authorities concerned, take necessary measures to facilitate the smooth conduct of the Study.

1. GOP shall be responsible for dealing with claims which may be brought by third parties against the members of the Japanese study team and shall hold them harmless in receipt of claims and liabilities arising in the course of, or otherwise connected with the discharge of their duties in the implementation of the Study, except when such claims or liabilities arise from gross negligence or willful misconduct of the above mentioned members.
2. SBMA shall, at its own expense, provide the Japanese study team with the following, if necessary, in cooperation with other agencies concerned:
  - (1) Available data and information related to the Study, including aerial photographs and maps;
  - (2) Counterpart personnel;
  - (3) Suitable office space with necessary equipment in Subic ; and
  - (4) Credentials or identification cards to the members of the Japanese study team.
3. SBMA shall make necessary arrangements with other governmental and non-governmental organizations concerned for the following:
  - (1) To secure the safety of the Japanese study team;
  - (2) To permit the members of the Japanese study team to enter, leave and sojourn in the Philippines for the duration of their assignment therein;
  - (3) To exempt the members of the Japanese study team from taxes, duties, fees and other charges on equipment, machinery and other materials brought into the Philippines 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 emolument 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 remittance as well as utilization of the funds introduced into the Philippines 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 to take all data and documents including aerial photographs related to the Study out of the Philippines to Japan by the Japanese study team; and
- (8) To provide medical services as needed and its expenses will be chargeable on the members of the Japanese study team.

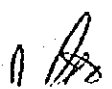
#### VIII. UNDERTAKING OF GOJ

In accordance with the Notes Verbales exchanged between GOJ and GOP, GOJ, through JICA, shall take the following measures for the implementation of the Study:

1. To dispatch, at its own expense, the Japanese study team to the Philippines;
2. To pursue technology transfer to the Philippine counterpart personnel in the course of the Study.

#### IX. CONSULTATION

JICA and SBMA shall consult with each other in respect to any matter that may arise from or in connection with the Study.



APPENDIX

TENTATIVE SCHEDULE OF THE STUDY

month	1st	2ed	3rd	4	5	6	7	8	9	10	11	12	13
work in the Philippines	[Bar]					[Bar]					[Bar]		
work in Japan	[Bar]			[Bar]			[Bar]					[Bar]	
Report	△ IC/R		△ P/R		△ IT/R					△ DF/R		△ F/R	

ABBREVIATION

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

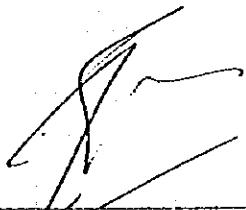
③ M/M

MINUTES OF THE MEETING  
ON  
THE IMPLEMENTING ARRANGEMENT  
FOR  
THE STUDY  
ON  
THE SUBIC BAY PORT MASTER PLAN  
IN  
THE REPUBLIC OF THE PHILIPPINES

AGREED UPON BETWEEN

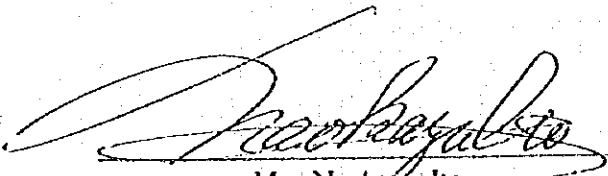
SUBIC BAY METROPOLITAN AUTHORITY  
AND  
JAPAN INTERNATIONAL COOPERATION AGENCY

Subic, 3 June 1997



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Mr. Richard J. Gordon  
Chairman and Administrator  
Subic Bay Metropolitan Authority



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Mr. Naokazu Ito  
Leader  
Preparatory Study Team  
Japan International  
Cooperation Agency

In response to the request of the Government of the Republic of the Philippines (hereinafter referred to as "GOP") the Government of Japan (hereinafter referred to as "GOJ") has decided to dispatch the preparatory study team (hereinafter referred to as "the Study Team"), headed by Mr. Naokazu Ito, from 28 May to 14 June 1997, through the Japan International Cooperation Agency (hereinafter referred to as "JICA") to discuss a technical cooperation on the proposed study on the Subic Bay Port Master Plan in the Republic of the Philippines (hereinafter referred to as "the Study").

The Study Team exchanged views and had a series of discussions on the Implementing Arrangement of the Study with officials from Subic Bay Metropolitan Authority (hereinafter referred to as "SBMA") and other concerned organizations. The Study Team also visited the Subic Bay Port Area to understand its current situations and to collect relevant information for the Study.

Through these discussions, SBMA and the Study Team have completed the Implementing Arrangement of the Study. A list of officials met by the Study Team is attached as ANNEX. The main items discussed and basically agreed upon are as follows:

1. Both sides agreed that the Philippine counterpart agency shall be SBMA in coordination with all organizations concerned with the implementation of the Study.
2. SBMA requested that the Master plan shall cover the whole area of Subic Bay. The detailed Master plan shall be concentrated on the waterfront of the SBF Secured Area and conceptual zoning shall be conducted on the rest of the area for future port development. However, if there is a strong demand based on the forecast, the detailed Master plan shall be extended to the whole area.  
Both sides agreed that the term of "Master plan" is "conceptual zoning" in I/A(3.(2)), and the term of "detailed Master plan" is "Master plan" in I/A(4).
3. Noting the fact that Concession Agreement on the development of container terminal at the former Naval Supply Depot is to be finalized soon, the project shall be treated as a given element in the Study.
4. SBMA requested to put emphasis on the conduct of hydrographic survey.
5. With reference to phasing of implementation program for Master plan in I/A, "port facilities" shall include associated infrastructure upgrade within the SBF Secured Area.



6. SBMA requested that a counterpart training shall be conducted in Japan. The Study Team expressed that they shall convey the request to GOJ.

7. The Study should be conducted carefully regarding the limited surface and the expansion plan of Subic Bay International Airport.

8. For the smooth implementation of the Study, the Study Team expressed the importance of organizing a steering committee. SBMA shall make necessary arrangements for setting up and holding meetings of Inter-governmental Steering Committee consisting of following organizations under the chairmanship of the SBMA.

- 1) Subic Bay Metropolitan Authority
- 2) National Economic and Development Authorities (NEDA)
- 3) NEDA-3
- 4) Department of Transportation and Communications
- 5) Department of Public Works and Highways
- 6) Department of Environment and Natural Resources
- 7) Philippine Port Authority
- 8) Philippine Economic Zone Authority
- 9) Clark Development Cooperation

9. As for the Final Report, SBMA agreed that JICA make it open to the public.

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<Embassy of Japan>  
YOSHIJI KOYANO

First Secretary

<OECD Philippine Office>  
HIROSHI EJIMA

Senior Representative

<JICA Philippine Office>  
HIROSHI GOTO  
JURO CHIKARAISHI  
HISAKATSU OKUDA

Resident Representative  
Deputy Resident Representative  
Assistant Resident Representative

<The Study Team>  
NAOKAZU ITO  
KENJI ONO  
TAKESHI SUZUKI  
HIROYUKI KANZAKI  
YOSHIHIRO DAICHO  
YUJI HATAKEYAMA

Leader  
Port Management & Operation  
Port Planning  
Study Plan  
Natural Conditions  
Environmental Surveys

List of Members met by the Study Team**<Subic Bay Metropolitan Authority >**

RICHARD J. GORDON	Chairman and Administrator
FERDINAND ARISTORENAS	Chief Operating Officer
ARMIN B. RAQUEL-SANTOS	Deputy Administrator for Finance
FERDINAND L. HERNANDEZ	Deputy Administrator for Port Operations
FRANCISCO LEGASPI	Director
MANUEL W. QUIJANO	Head, Legal Department
DELIA E. SANTIAGO	Officer in Charge of Ecology Center
OSCAR G. ESPIRITU	Head, Port Engineering Division, Seaport Department
HENDRIK J. KIAMZON	Analyst, Finance Group
HANS J. KIAMZON	Associate, Investment Processing Department, Trade & Tourism Group
DAVID DEQUIT	Office of Legal Counsel
EVELYN T. DELA CRUZ	Port Engineer (Structural), Port Eng'g. Division, Seaport Department
YOLANDO C. DIMEN	Division Chief, Engineering
RAUL GALANG	Investment Center
GUY K. DIXON	Property Development Advisor, Institutional Strengthening Project
DEREK M. SHERMAN	Consultant
JAMES O'GARA	Consultant
RICHARD MILLER	Consultant

**<National Economic and Development Authority>**

JOSEFINA U. ESGUERRA	Director, Public Investment Staff
ALELY ALEJAR-BERNARDO	Chief, Asia-Pacific Division, Public Investment Staff
CRISTINA MARIE C. SANTIAGO	Japan Desk Officer, Public Investment Staff
MILAGROS C. AMACANIN	Economic Development Specialist, Public Investment Staff
LULU S. BACLAGON	Infrastructure Staff

**<Department of Transportation and Communications>**

HIROMI KADO	JICA Expert
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**<Department of Environment and Natural Resources>**

DELFIN J. GANAPIN, JR.	Undersecretary for Environment and Programs Development
JESUS A. CARINO	Project Development Officer, Foreign Assisted Project Office

**<Asian Development Bank>**

THOMAS P. WALSH	Senior Programs Officer, Programs Department (East), Philippine Desk
SHILADITYA CHATTERJEE	Programs Officer
ERI HONDA	Urban Development Specialist, Water Supply, Urban Development and Housing Division (AEWU)

## ④ 予備調査報告（総括）

### I. 経緯

1. スービック港湾整備計画事前調査団は平成9年2月12日から22日までの11日間にわたりフィリピンを訪れ調査要請の背景、具体的な要請内容についてSBMAを初めとする関係機関と広範な意見交換を行い、合わせて関連する周辺情報の収集をおこなった（別紙1、2）。

### II. 現状把握及び調査団所見

2. スービック湾の開発については、国内の関係機関（NEDA, DPWH, DOTC, PPA等）及びアジア開発銀行、世界銀行等の国際機関が共通して極めて強い関心を持って見守っていることが確認された。また、これらの関係機関はスービック背後圏の活動に関する多くの調査を既に実施しており、その中においてもスービック湾の開発の重要性が指摘されている（詳細は協議議事録集参照のこと）。

3. SBMAはスービック湾において工業団地の整備、マリーナの整備等の具体的なプロジェクトを既に進めている他、NSD地区では民間資金を利用したコンテナターミナルの建設計画を進行中であり、中央地区においては金融を中心としたビジネスセンターを整備する構想を持っている（別紙3）。しかしながら、SBMAはスービック湾全体の包括的な開発方針を有していないことからゴートン長官はJICAの本格調査に対し、湾全体の長期的な利用方針の策定を強く希望している。

4. SBMAの業務体制を見ると、ゴートン長官が極めて大きな影響力を持つ存在である一方、主要な職員の平均年齢はおよそ30歳代と若く、弁護士資格を持つなど優秀な資質を有するもののSBMAを運営していくために必要となる実務的な経験は極めて不十分である。本格調査を通じてこの様な制度面、組織面での技術移転を行うことが重要と思われる。

5. 調査の対象範囲について議論を行った。基本的に調査範囲はSBMAの権限が及ぶ範囲に限定することが妥当と思料とされる。前述のようにSBMAは湾全体の長期的な開発方針の策定を強く希望しており、調査団に対し当該水域全体を対象にした水域及び水際線利用

のゾーニングプランを調査の中で行うよう要請があった（別紙4）。一方、2020年を目標年次とするマスタープランの対象範囲については、I/AミッションがSBMAと詳細な打ち合わせを行い決定することになるが調査団とSBMAはその範囲をSBF SECURED AREA（別紙5）とし、目標年次の需要予測の結果によってはさらに拡大する可能性もあることで基本的に意見の一致をみた。

6. 短期計画についてはマスタープランの結果、必要性が明らかになったプロジェクトを対象に積極的に本格調査の中に取り込んでいくべきであると考え。なお、OECDは本格調査の結果を早期の円借につなげるため、F/Sを本格調査の一部として実施することを希望している。

7. 本格調査の実施に当たって配慮しなくてはならない点はいくつかある。そのうち最も重要なものは現在進行中のプロジェクト（パラグラフ3を参照）と本格調査で策定するマスタープランとの整合性である。特に現在検討中であるNSD地区のコンテナターミナルの開発計画はマスタープランと緊密な関係があり、その実施のスケジュールについては重大な関心を払う必要がある。SBMAの情報によれば、このプロジェクトは本年3月に再公募を行い、年内に民間企業を選定する予定となっている。本格調査の開始は早くとも本年9月頃の予定であるからSBMAの手続きが予定通り進んだ場合、コンテナターミナルの計画に関して本格調査に残される自由度はかなり限定され、このプロジェクトを与件としてマスタープランを策定せざるを得ない可能性も出てくる。

8. NSD地区の開発に関連して考慮すべき事項として同地区がコンテナターミナルとして開発されると現状貨物を取り扱う代替施設が同時に必要となることである。SBMAではその移転先をNSD地区に隣接するBOTON埠頭と考えているとのことである（別紙3）。この点に関して調査団はBOTON埠頭の利用を考えるにあたっては本格調査の結果を待つべきで当面の利用が必要であれば特別の投資をすることなく暫定的に既存のBOTON埠頭を使用すべきである旨の意見を述べた。SBMAもこの点については理解を示した。

9. 更に考慮すべき点として関係機関との調整がある。SBMAは法律で定められた領域において独立した権限をもつものの、港湾のプロジェクトでは背後圏との関係が極めて重要であり、そのため他の関係機関が管轄するプロジェクトとの連携が不可欠である。この観点から関係機関をメンバーとした調整委員会（ステアリングコミティー）の設置が必要であり、メンバーは次回のI/AミッションがSBMA他の関係機関と協議して決定することとした。今回訪問出来なかったDENR（環境資源省）、CDC（クラーク開発公社）とはI/Aミッション時に協議の場を持つ必要がある。

### III. I/Aミッションで配慮すべき事項

10. SBMAは港全体の利用の基本的方針作りを希望している。湾全体の面積は博多湾程度でかなり広いため、全域を対象にした利用計画は概念的ないわゆるゾーニングプランの策定に留めざるを得ない。この点についてのアウトプットのイメージを具体化するため東京湾と大阪湾のゾーニングプランを例示しながら説明した。調査団としては理解を得たと考えているがI/Aミッションの際もこの点は再度確認されたい。また湾外の海岸部（別紙4）を調査対象とするかどうかも再度協議する必要がある。このためI/Aミッションではヘリコプターによる調査を含め湾全体をじっくり見る時間を確保する必要がある。

11. マスタープランの対象範囲は作業量を考慮して、無理のない範囲を対象とすることで話をしてきているが、これはあくまでも需要予測の結果を反映して決定されるべきものである。予測の結果得られる貨物量等が当初の対象範囲の容量を超えるようであれば湾奥に開発ポテンシャルの高い箇所もあり、かなりの規模のマスタープランも期待できる。なお、F/S調査に関しては民活によるコンテナターミナル開発プロジェクトが進行中であり、それほど規模の大きい計画は期待できない状況であるが、NSD地区で現在扱っている貨物は少なくともBOTON埠頭その他の施設で扱う必要があり、これらの短期計画は必要になってくる。また前述の様にOECSの期待も大きい。

12. NSD地区のコンテナターミナル開発プロジェクトは今年3月に再公募の予定になっているが、現在の準備状況を見る限り更に遅れる可能性がある。この問題の取扱いについては、本年5月に予定されているI/Aミッションがその進捗状況を確認し、本格調査の中にどのように取り込んでいくかを先方と協議する必要がある。いずれにしても、間もなく始動する予定のプロジェクトをできるだけ幅広く調査に取り組んでいくため、I/Aミッション及び本格調査団をできるだけ早い時期に派遣する必要がある。

13. SBMAは当該区域における独立した権限を与えられている新しい組織である。従って、港湾関係の法規制も今自ら準備している段階であって、港湾法や海上交通安全法に該当するルールづくりをしており、本格調査の中で内容をチェックすることを期待している。調査団はこの件に関してはドラフト作りは本格調査では対応出来ないが、内容に関するアドバイスはできると発言している。調査のスコープにもこの内容を反映して頂きたい。また、港湾を運営する体制もまだできていない状況であり、職員の養成や組織作りへの具体的な提言も本調査の極めて重要なスコープの一つである。

14. SBMAとの協議の中ではMARKET ANALYSISを調査の中で検討するように重ねて要請があった。先方が期待している内容は、通常の港湾開発のベースとなる需要予測である。

が、その検討にあたってはスービック湾の背後圏におけるクラーク基地の開発、パターン半島の開発等のプロジェクトに配慮する他、香港の返還や東アジア地域におけるスービックの地理的優位性等を背景としたハブポートの可能性等も考慮した分析が必要となる。

15. 調査全体のスコープについて言えばF/Sに重点をおいた通常の港湾プロジェクト調査と比較して、本調査は湾全体の開発ポテンシャルの分析やマスタープランの策定さらには組織づくりへの具体的なアドバイス等に力点を置いた特徴のある調査に仕立てる必要があると考える。また、SBMAは民活を利用したプロジェクトを積極的に推進しており、時間の持つ価値に非常に敏感で"TIME IS ENEMY"という考えを強く持っている。このため、調査のアウトプットを一日でも早く手にできることを希望しており、本格調査の開始時期を早める様努力すると共に本格調査の期間をできるだけ短縮するようなスコープ作りが必要である。

REQUIRED DATA AND QUESTIONNAIRE  
FOR  
THE PREPARATORY STUDY  
ON  
THE SUBIC BAY PORT MASTER PLAN  
IN  
THE REPUBLIC OF PHILIPPINES

- Please mark ○ in the "Available or not" for the Data/Item which is available, and specify the name of reference materials.
- Please mark × in the "Available or not" for the Data/Item which is not available.
- Items underlined and marked with an asterisk(\*) are to be provided to the Preparatory Study Team by or during their stay in Philippines for the smooth conduct of the Study.
- After the big dot ●, or the big triangle ▲, there is a serial number corresponding with each material already given to the former contact mission. (See the table on the last 3 pages.)
- Items marked with a big dot ● and a reference number are those which the Team has already had enough Data/Item about from the material identified by the number, and with a big triangle ▲ are those which the team already has the material of the reference number but still would like to have further information about.

May 1997  
JAPAN INTERNATIONAL COOPERATION AGENCY(JICA)



This page contains the outline of the following questionnaire;

- I. General Information  
Economic, transportation, industrial plans.
- II. Transportation System between Subic and Manila, and Subic and Central Luzon Area  
Latest maps and information.
- III. Subic port
  1. CONDITIONS  
General information of the port.
  2. FACILITIES  
Detailed information of the port facilities.
  3. LAND AND COASTAL USE IN/AROUND THE PORT OF SUBIC  
Present conditions (the ownership of land etc.)
  4. STATUS OF DEVELOPMENTS IN THE SUBIC BAY AREA  
Industries, commercial activities and tourism.
  5. NATURAL CONDITIONS  
Maps, Meteorological and hydrographic conditions. Water quality, etc.
- IV. Projects related to the Subic Bay development  
Port of Manila and its alternatives, Clark air base.
- V. Environment  
Environmental criteria, IEE/EIA, protection area, vulnerable area, present quality, fishery, existing rights, etc.
- VI. Consultants and surveyors  
List and unit price for consultants and surveyors.

Following questionnaire tables may be filled with marks (●▲) with number and comments, but please give us the availability (and the name of the material if available) to every question.

No.	Item of Data/Information	Available or not	Name of Reports and Files	Source or Remarks
	I. GENERAL INFORMATION.			
1	1. Development/Improvement plans and policies, by nation and by region			
2	#1) <u>Economic development policies and plans</u>	▲14, 17, 22		
3	2) <u>Transportation development policies and plans</u>	●2, 23, 24, 26, 27		
4	3) <u>Industrial development policies and plans</u>	▲15		
	4) <u>Forecast of socio-economic indicators</u>			
	II. TRANSPORTATION SYSTEM between SUBIC and MANILA, and SUBIC and CENTRAL LUZON AREA.			
5	#1. <u>Network maps and outlines (ports, roads, railways, and commercial flights)</u>	▲2, 8, 25	We need the latest information.	
	2. Transport administration			
6	1) <u>Administrative organization chart with jurisdictional responsibilities, budget and brief explanation</u>			
	① SEMA	●3	RA7227	
	② <u>Other indispensable organizations for this project</u>			
	III. SUBIC PORT			
	I. Condition of Subic port			
8	1) <u>Construction history</u>			
9	#2) <u>Port related budget, financial conditions (annual budget, financial statement, loan, and etc.)</u>			
10	3) <u>Tariff table</u>			

No.	Item of Data/Information	Available or not	Name of Reports and Files	Source or Remarks
11	4) Statistical data for the last 5 years *① <u>Cargo volume by commodity by each berth.</u> *② <u>Container loads and transshipment</u> *③ <u>Vessel calls by type and size</u> ④ <u>Passenger traffic</u> *5) <u>Related information</u> ① <u>Shipping company and the network</u> ② <u>Hinterland and the major shippers of the port</u> *6) <u>Port management and operation</u> ① <u>Organization chart with personnel allocation by each department or division</u> ② <u>Privatization</u> ③ <u>Container and cargo handling system</u> ④ <u>Training system for port employees</u>	▲1 ▲8 ▲8 ▲8 ▲13 ▲3	No statistical data included.	
12			SBMA No data for personnel allocation.	
13	7) <u>Development/improvement policies/plans</u> *8) <u>Present condition of the development of the NSD area</u> *9) <u>Related studies and plans</u> ① <u>Reports of the study carried out by another donor</u> ② <u>Others</u>	▲ ●4,9	Got some information from PPA	
14			FBI Only contains plans of the study.	
15			16 introduces the Shipyard.	
16	2) Port facilities of Subic port *1) <u>Inventory of facilities (location, dimension, completion date, capacity, utilization)</u> ① <u>Berths</u> *2) <u>Channel and navigation and mooring facilities</u> ③ <u>Storage facilities</u> ④ <u>Cargo handling equipment</u> *5) <u>Port service facilities (tag, pilot boat, etc.)</u>	●3 ▲12 ▲16 ●1,6 ▲5,6 ●6 ●6	Channel x, moorings, navigation	
17				
18	2) <u>Technical standards for port facilities</u>			

No.	Item of Data/Information	Available or not	Name of Reports and Files	Source or Remarks
19	3) <u>Present conditions of superannuation, maintenance, improvement and repair of facilities</u>	▲7	A WB report of 1992	
20	3. Land and coastal use in/around the port of Subic	▲11	An outline of conditions of infrastructure.	
21	*1) <u>The present conditions</u>	●18, 20	RA7916, RA7227	
22	*2) <u>Location of warehouses, stockyard and residential area</u>	▲3	We need more and latest information than 1994 report of WB.	
23	*3) <u>The ownership of land</u>	▲3		
24	4) Relevant laws and regulations	▲3		
25	4. Status of developments in the Subic bay area.	▲3		
26	1) Industries	▲5		
27	2) Commercial activities	●19 ▲5	That of Naval base days, before the eruption of Mt. Pinatubo	
28	3) Tourism	●5		
29	5. Natural conditions	▲5	Graphs and comments given in 5 are helpful to grasp the outline, but we still need the raw data.	
30	1) Maps and aerial photographs	▲5		
31	*① <u>Topographical map(kinds of maps and their scale)</u>	▲5		
32	② <u>Marine chart(kinds of charts and their scale)</u>	▲5		
33	*③ <u>Geological map</u>	▲5		
34	④ <u>Seismic map</u>	▲5		
35	*⑤ <u>Aerial photographs(index map with date surveyed and their scale)</u>	▲5		
36	*2) <u>Meteorological conditions</u>	▲5	No statistical data of waves.	
37	① <u>Climate</u> ② <u>Winds</u>	▲5		
38	③ <u>Special phenomena(storm weathers, earthquake)</u>	▲5		
39	*3) <u>Hydrographic conditions</u>	▲5		
40	① <u>Tides, Waves, Tidal currents</u>	▲5		
41	② <u>Littoral drift, siltation, and erosion</u>	▲5		
42	③ <u>Bathymetric maps(water depth)</u>	▲21		

No.	Item of Data/Information	Available or not	Name of Reports and Files	Source or Remarks
30	*4) <u>Water quality and bottom sediment</u> ① <u>Water quality</u> ② <u>Bottom sediment</u> ③ <u>Boring Data (onshore and/or offshore borings)</u> ④ <u>Laboratory soil testing Data</u> 5) <u>River flow</u>	▲ 5. 21		
31	IV. PROJECTS RELATED TO THE SUBIC BAY DEVELOPMENT 1. Port of Manila			
32	*1) <u>Shipping services by main sort</u> ① <u>Container</u> ② <u>Conventional</u>			
33	*2) <u>Development/improvement</u> ① <u>Policies/plans</u> ② <u>Alternative port</u>			
34	3) <u>Related studies and plans</u> ① <u>Reports of the study carried out by another donor</u> ② <u>Others</u>			
35	*4) <u>Hinterland and major shippers of the port</u>			
36	2. Clark Air Base Project *1) <u>Development/improvement policies/plans</u>			
37	*2) <u>Status of the development</u>			
38	3. Other related project			

No.	Item of Data/Information	Available or not	Name of Reports and Files	Source or Remarks
	<p>V. ENVIRONMENT CONDITIONS</p> <p>1. Environmental criteria</p>			
39	<p>*1) Environmental quality standards on:</p>	▲10	④ x	
40	<p>① Air quality ② Water quality ③ Noise ④ Vibration</p> <p>*2) Regulation for each pollutant's source such as factories vehicles and ships on:</p>	▲10	④ x	
	<p>① Emission gas ② Effluent ③ Noise ④ Vibration</p>			
	<p>2. IEE and/or EIA</p>	▲10		
41	<p>*1) Laws/guidelines related to Initial Environmental Examination(IEE) and Environmental Impact assessment(EIA) for Ports/Harbours</p>	●10		
42	<p>2) Responsible ministry or agency related to IEE/EIA</p>	▲10		
43	<p>*3) Procedure of IEE and/or EIA</p>			
	<p>3. Environmental protection area by law and regulation</p>	▲5,11		
44	<p>*1) Historic and religious spots and landscapes around Subic bay</p>	▲5		
45	<p>*2) National parks and natural parks around Subic bay</p>	▲5		
	<p>4. Environmental vulnerable area</p>	▲5		
46	<p>*1) Location of mangrove forest, coral reef, submerged reef, wetland, tideland etc.</p>	▲5	No maps.	
47	<p>*2) Rare and endangered Species in the area</p>	▲5		

No.	Item of Data/Information	Available or not	Name of Reports and Files	Source or Remarks
48	5. Present qualities of natural environment in Subic bay and their observatory stations: *1) <u>Existing Data</u>			
49	① <u>Air quality</u> ② <u>Water quality of river and sea</u> ③ <u>Noise</u> ④ <u>Vibration</u>	▲5	Data are available as airport related data.	
50	*2) <u>Locations of observatory stations and observatory frequency at observatory stations</u>			
51	*3) <u>Responsible agencies related to their observation</u>			
52	6. Others *1) <u>Geographical distribution about fisheries around Subic</u>			
53	*2) <u>Water rights, fishery rights and rights of common around Subic</u> *3) <u>Number of fishermen around Subic</u>			

No.	Item of Data/Information	Available or not	Name of Reports and Files	Source or Remarks
54	V. Consultants and Surveyors 1. <u>list of consultants</u> 2. Cost of investigation and survey and salary for consultants(Unit of price)			
55	*1) <u>Boring</u>			
56	*2) <u>laboratory soil tests</u>			
57	*3) <u>Topographic survey</u>			
58	*4) <u>Hydrographic survey(Sounding, Wave and Current Observation)</u>			
59	5) <u>Air quality survey</u>			
60	*6) <u>Water quality survey</u>			
61	*7) <u>Noise/Vibration survey</u>			
62	*8) <u>Seabed material survey(Bottom sediment sampling)</u>			
63	9) <u>Traffic(origin-destination) survey</u>			
64	*10) <u>Fauna and flora survey</u>			
65	*11) <u>Social environment study</u>			



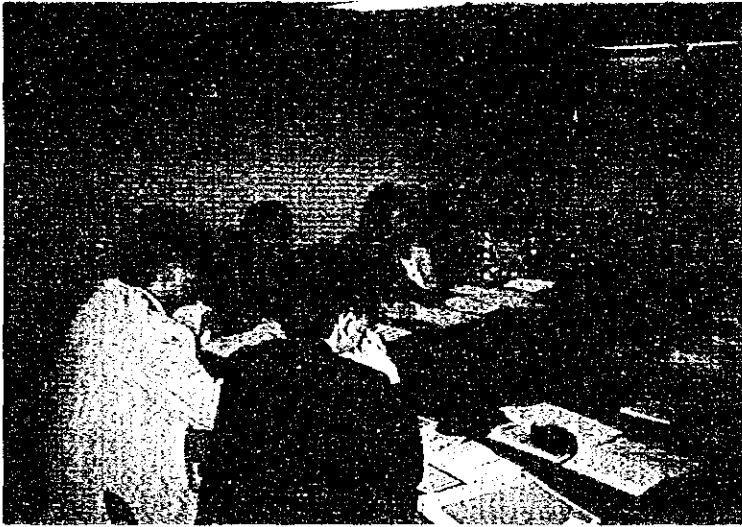
List of materials the former Contact Mission has collected during their stay in February.

No.	Name of Reports and Files	Source/Remarks	written date	Explanation
1	Subic Port Development	Japanese Embassy	unknown	Outline of Subic Bay Port.
2	Map:Project N.L.E-C5-Subic	DPWH	unknown	Map of a proposed highway.
3	2nd Subic Bay Freeport Project	WB	Oct. '96	Staff Appraisal Report.
4	Draft Strategic Plan	SBMA	Sep. '96	Mid term plan of 1999-2004 made by Maxwell Stamp.
5	Existing Conditions	SBMA	unknown	Natural and Environmental Conditions.
6	SBMA Port Information	SBMA	unknown	Inventory of Subic Port Facilities.
7	Physical Conditions of Marine Facilities	WB	Aug. '92	Survey report of WB.
8	Statistical data	SBMA	unknown	Port cargo, Ferry ads. Airline timetable. Road tariff etc.
9	SBMA Seaport Development Strategy	SBMA	unknown	A part of a future plan of the Subic port.
10	Guidelines for Environmental Protection	SBMA	Nov. '92	A related report to WB survey.
11	Infrastructure in the SBF Area.	SBMA	unknown	A few extracts from WB report.
12	Subic Bay Freeport - Master Plan	SBMA	unknown	Extracts from some other report.
13	SBMA color booklets	SBMA	unknown	Statistics about already settled enterprise are included.
14	Follow up of CLDP masterplan study	NEDA III	Jan. '97	Researching the progress of the JICA study project.
15	Data sheet of EPZs	PEZA	unknown	Data sheet of Subic shipyard, Hermosa, PNOG, Cavite, Luisita, Angeles, Baguio, Bataan EPZs.
16	Subic Shipyard and Engineering, Inc.	PEZA	unknown	Extracts from a color booklet introducing the shipyard.
17	The Philippine Economic Zones	PEZA	Jan. '97	A color booklet introducing EPZ in Philippines.
18	RA7916	PEZA	'95	The Special Economical Zone Act of 1995
19	Marine chart	SBMA	'74?	Not metric, relatively old.
20	RA7227	SBMA	'92	Bases Conversion and Development Act of 1992
21	Boring data and drawings.	SBMA		See the list attached after this.
22	Medium-Term Philippines Development Plan	NEDA	unknown	National Development Plan
23	Prep of a National Transport Strategy	NEDA	unknown	National Transport Development Strategy (DRAFT)
24	Transportation in the Philippines.	JICA	'95	Transportation System
25	Roadmap of the Philippines(1/1,000,000)	?	'85	Road map
26	Master Plan Study on Luzon Island ---	JICA	'93	Road Development Plan
27	Folio of DPWH Flashship Projects	DPWH	'95	Road Development Plan by DPWH.

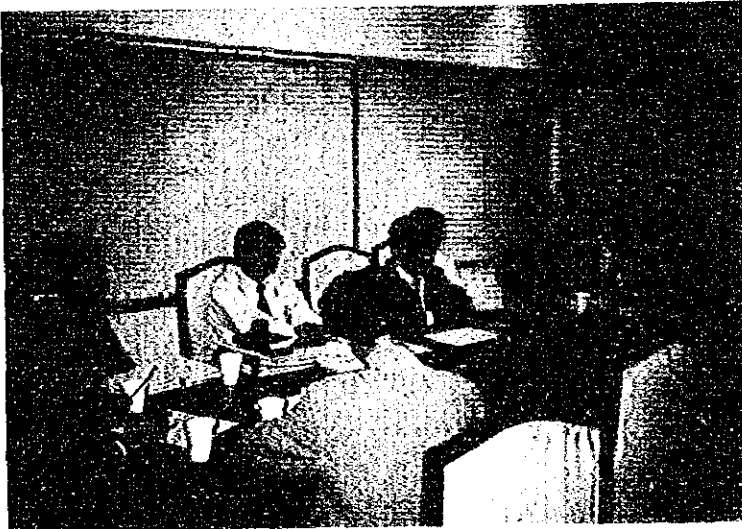
Thank you very much for your continuous cooperation for the smooth conduct of the study.



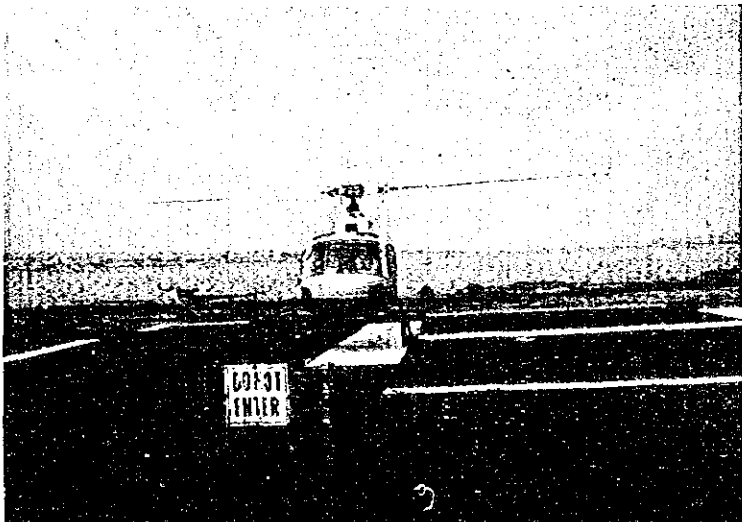
⑥ 現場写真



平成9年5月29日 NEDAにて協議



平成9年5月30日 SBMAにて協議



平成9年5月31日 Subic Bayをへ  
リコプターで視察





平成9年6月2日 SBMA ゴードン  
長官訪問

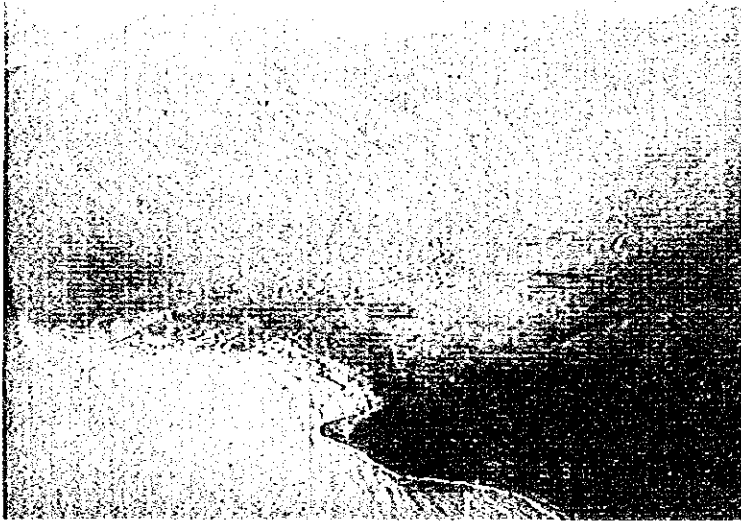


平成9年6月5日 JICA 事務所にて  
Joint Meeting

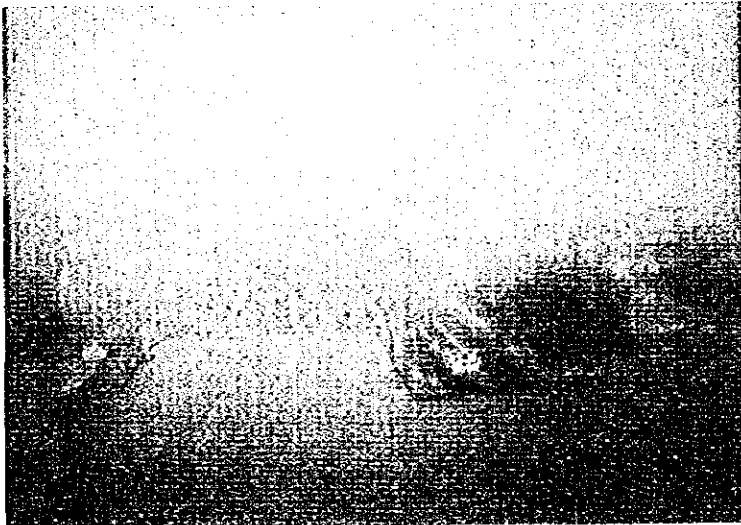


調査対象地域 LANDSAT 画像





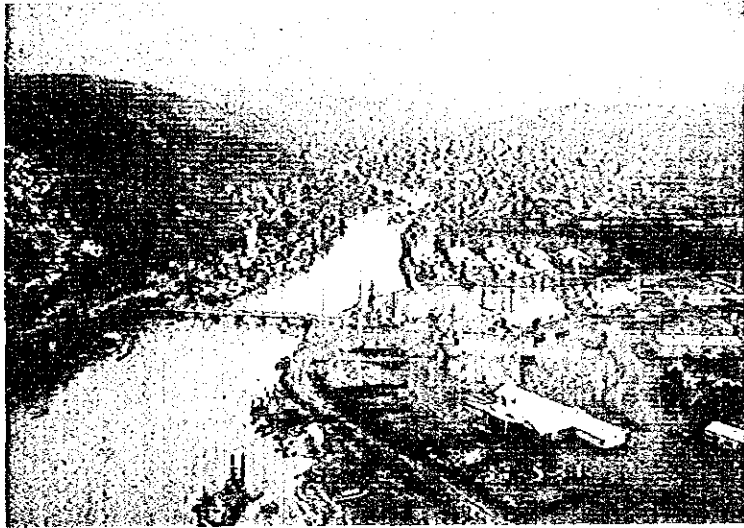
SBF 対岸のリンド半島



湾奥のスービック町にあるシップ  
ヤード



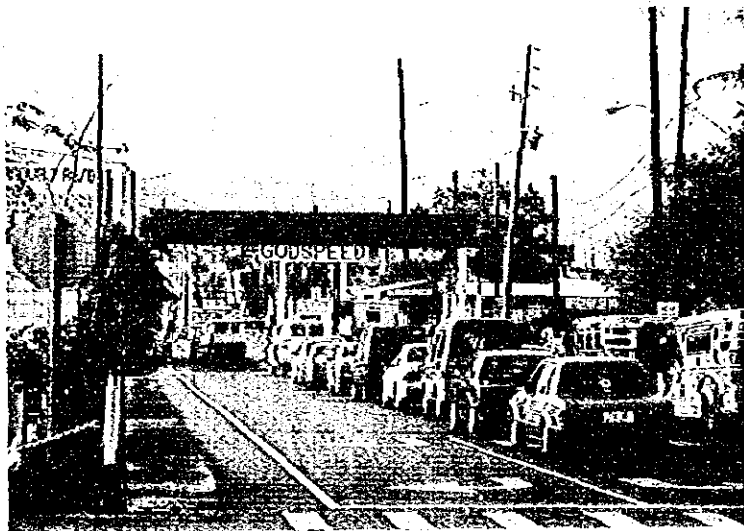




カラクラン川河口より  
SBF Secured Area および  
Olongapo 市を北に望む

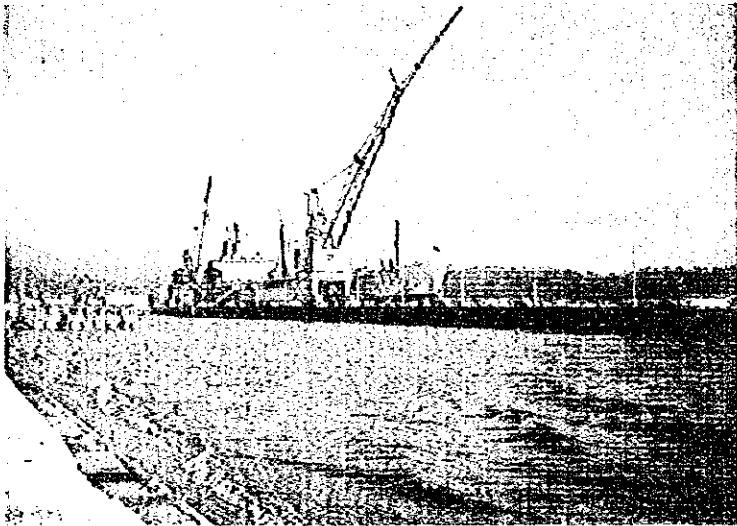


SBF Secured Area の中央業務地区  
(予定) の前面

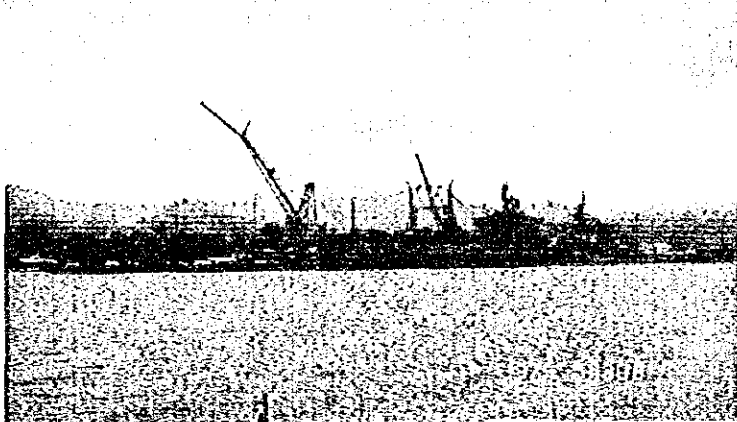


SBF Secured Area より見たメイン  
ゲート (「出国」する車達)

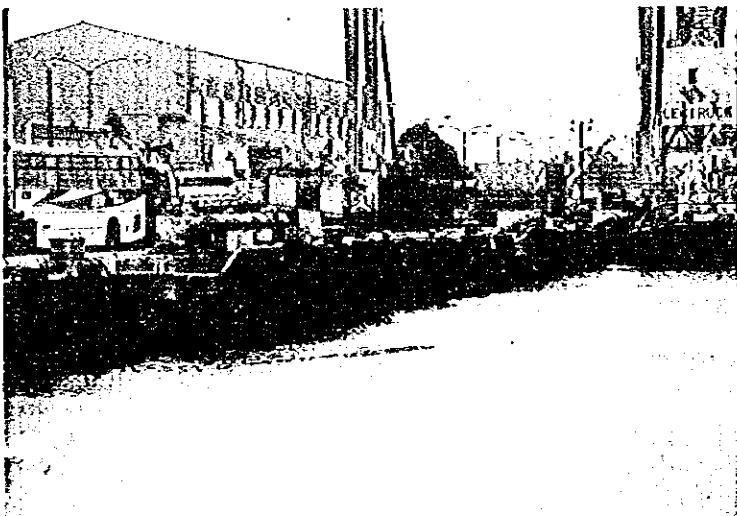




陸側から見た Alava Wharf

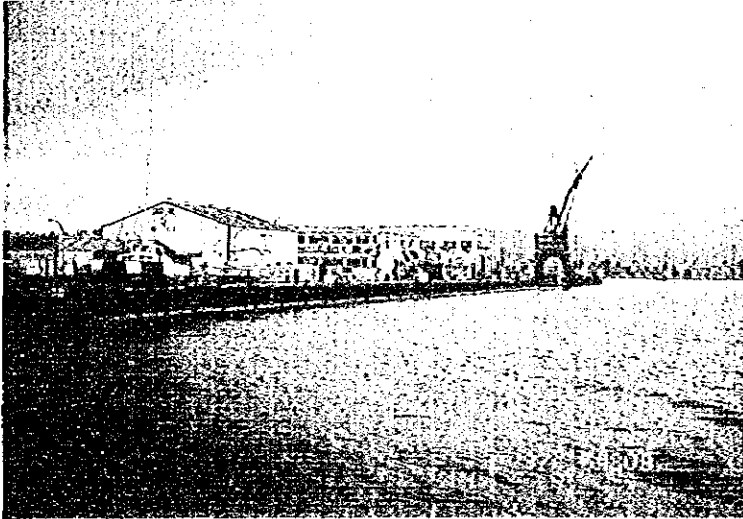


湾側から見た Alava Wharf

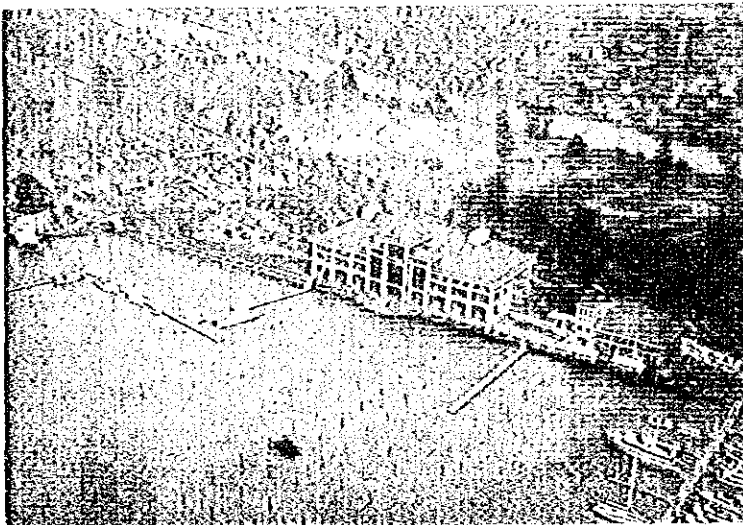


Bravo Pier 付近の棧橋の状態

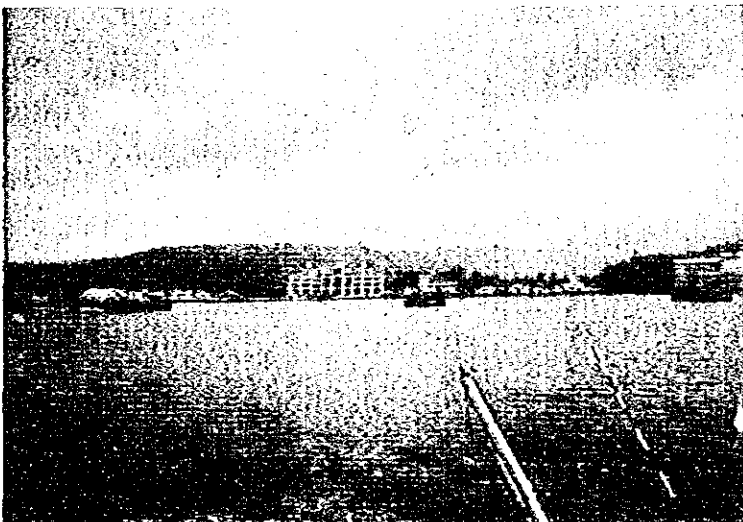




Rivera Wharf



Subic Bay Yacht Club



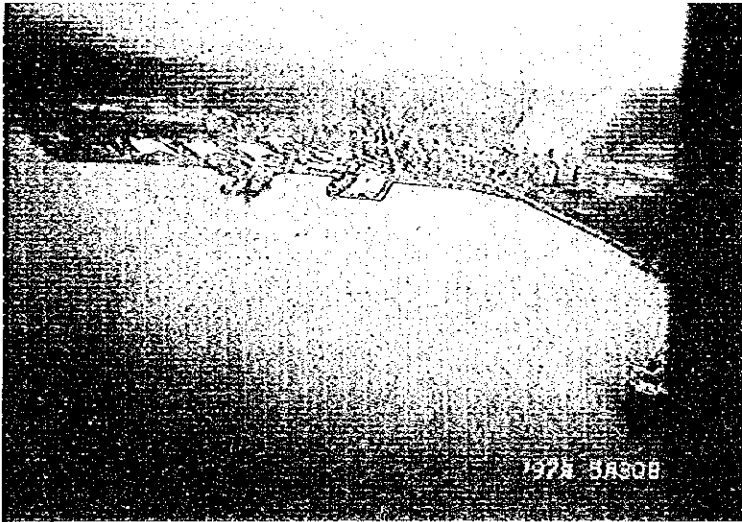
Subic Bay Yacht Club







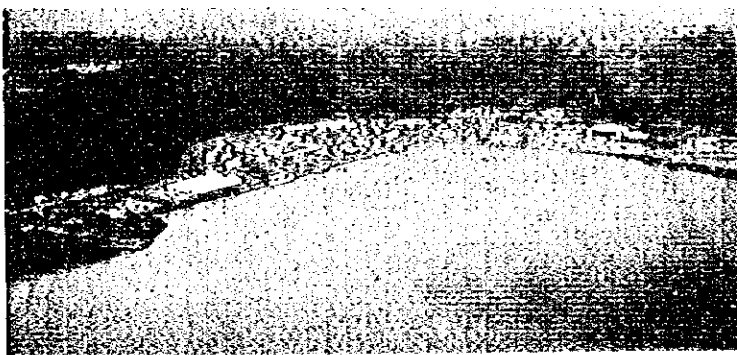




南側より見た NSD 地区、発電所



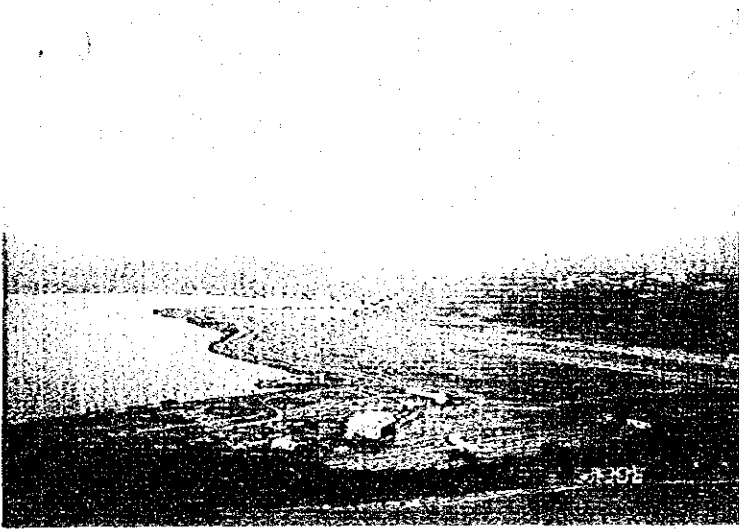
発電所



Boton Wharf



空港



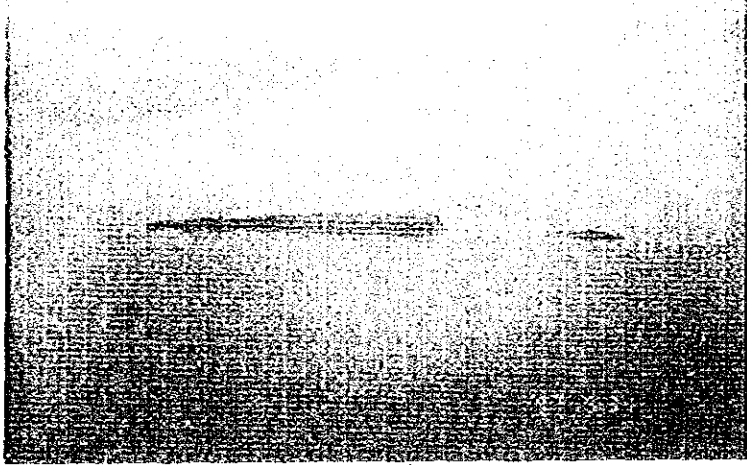
空港南部の Triboa Bay



空港南部の Triboa Bay







Subic Bay 湾口の Grande 島、  
Chiquito 島



Grande 島の船着き場



Grande 島の船着き場



⑦ 収集資料リスト

収集資料リスト (I)

番号	カテゴリ	資料の名称	発行年	地域	言語	形態	版型	ページ数	資料の別	部数	収集先名称又は発行機関	寄贈・購入の別	備考
1	アトミック	Memorandum of Understanding between the Asian Development Bank Loan-Fact Finding Mission and the Government of the Republic of the Philippines for the Infrastructure Improvement of Subic Bay Area Municipalities	1997	Subic 他6市	英語	書面	A 4	94	別紙	1	ADB	寄贈	
2	アトミック	Technical assistance to the Philippines for the Infrastructure Improvement of Subic Bay Area Municipalities (JSP-Financed)	1996	Subic 他6市	英語	冊子	A 4	14	別紙	1	ADB	寄贈	
3	環境アセスメント	Revising DENR Administrative Order No.21, Series of 1992, to Further Strengthen the Implementation of the Environmental Impact Statement (EIS) System	1996	-	英語	書面	A 4	39	別紙	1	DENR	寄贈	
4	組織	Ecology Center	1997	Subic	英語	書面	A 4	6	別紙	1	SDMA	寄贈	組織及び活動
5	環境	Marine Management and Reserved Area	1997	Subic bay	英語	書面	A 4	1	別紙	1	SDMA	寄贈	海洋保全

収集資料リスト(2)

番号	カテゴリ	資料の名称	発行年	地域	言語	形態	版型	ページ数	資料の別	部数	収集先名称又は発行機関	寄贈・購入の別	備考
6	環境	Map of Parcel I (Subic) of the Subic - Bataan Natural Park	1997	Subic	英語	書面	A 4	1	JIC-	1	SEMA	寄贈	環境保全地区
7	開発計画	Subic Bay Freeport Urban Regeneration Strategy Plan	1997	Subic	英語	書面	A 4	20	JIC-	2	SEMA	寄贈	Appendix: Subic Freeport Development Program
8	土地利用計画図	Subic Bay Freeport Area Development Strategy	1997	Subic	英語	図面	B 4	1冊	JIC-	1	SEMA	寄贈	
9	投資	Investment Opportunities at the center of Asia and the Pacific Rim.	1997	Subic	英語	冊子	A 4	8	資料別	1	SEMA	寄贈	ハンフレット
10	工業団地	LUISITA Industrial Park Corporation	1997	Tarla C	英語	冊子	A 4	8	資料別	1	NEDA(III)	寄贈	ハンフレット
11	開発計画	The 'V V' Growth Corridor	1997	中部 Pampanga	英語	書面	A 4	1	JIC-	1	NEDA(III)	寄贈	
12	投資	Clark Special Economic Zone	1997	Pampanga	英語	冊子	A 4	16	資料別	7	Clark Development Corporation	寄贈	ハンフレット
13	環境調査	Environmental Baseline Study, Final Report, Environmental Quality Survey - Volume I	1997	Subic	英語	製本	A 4	264	JIC-	1	SEMA	寄贈	土壌、地下水、底質汚染調査結果 Central Area, Port-Industrial Area, Boton Industrial Area, Airport Area, NAVMAG Rainforest Areaで実施



収集資料リスト (3)

番号	カテゴリ	資料の名称	発行年	地域	言語	形態	版型	ページ数	雑誌カ ブの別	部数	収集先名称又 は発行機関	寄贈・購入 の別	備考
14	環境調査	Environmental Baseline Study, Final Report, Ecological Baseline Study - Volume IV	1997	Subic	英語	製本	A4	269	雑誌-	1	SBMA	寄贈	森林、海洋生物、マングローブ、水質、気象、大気質、海洋調査結果 Subic Bay Freeport Zoneで実施
15	環境ビジョン	Our Stake in the Future, A Primer on the EIS System and DENR Administrative Order No.96-37	1997	-	英語	冊子	A5	32	雑誌カ	1	Environmental Management Bureau (EMB)	寄贈	環境アセスメント
16	環境ビジョン	Draft, Scoping Guidelines for the Environmental Impact Assessment of Ports and Harbors	不明	-	英語	書面	A4	9	雑誌-	1	SBMA	寄贈	港湾環境アセスメント
17	環境ビジョン	Environmental Guide to Investment Applications	1995	Subic	英語	書面	A4	35	雑誌-	1	SBMA	寄贈	
18	環境法	Guidelines for Construction Projects	1996	Subic	英語	書面	A4	3	雑誌-	1	SBMA	寄贈	
19	環境法	Rules and Regulations for Hazardous Waste Generators and Transporters	1995	Subic	英語	書面	A4	5	雑誌-	1	SBMA	寄贈	
20	環境法	Rules and Regulation for Prevention, Containment, Abatement and Control of Marine Pollution	1994	Subic	英語	書面	A4	14	雑誌-	1	SBMA	寄贈	

収集資料リスト(4)

番号	カテゴリ	資料の名称	発行年	地域	言語	形態	版型	ページ数	資料の別	部数	収集先名称又は発行機関	寄贈・購入の別	備考
2 1	環境法	Guidelines for Bunkering Operations	1995	Subic	英語	書面	A 4	9	JIC-	1	SBMA	寄贈	
2 2	環境法	Recreational Fishing	1994	Subic	英語	書面	A 4	7	JIC-	1	SBMA	寄贈	
2 3	環境法	DENR Administrative Order No.29, Implementing Rules and Regulations of Republic Act 6969	-	-	英語	書面	A 4	18	JIC-	1	SBMA	寄贈	有害物質規制
2 4	環境法	DENR Administrative Order No.35, Revised Effluent Regulations of 1990, Revising and Amending the Effluent Regulations of 1982	1990	-	英語	書面	A 4	9	JIC-	1	SBMA	寄贈	排水規制
2 5	環境法	DENR Administrative Order No.34, Revised Water Usage and Classification, Water Quality Criteria Amending Section Nos:68 and 69, Chapter III of the 1978 NPCC Rules and Regulations	1990	-	英語	書面	A 4	9	JIC-	1	SBMA	寄贈	水質規制

収集資料リスト (5)

番号	カテゴリ	資料の名称	発行年	地域	言語	形態	版型	ページ数	資料の別	部数	収集先名称又は発行機関	寄贈・購入の別	備考
26	環境法	Presidential Decree No. 1984, Providing for the Revision of Republic Act No.3931, commonly known as the Pollution Control Law, and for Other Purposes	-	-	英語	書面	A 4	9	JIC-	1	SEMA	寄贈	公害規制
27	環境法	Revised Air Quality Standards of 1992, Revising and Amending the Air Quality Standards of 1978	1993	-	英語	書面	A 4	24	JIC-	1	SEMA	寄贈	大気質
28	環境アセスメント	Department of Environment and Natural Resources, Procedural Manual for DAO 96-27, Initial Version	1997	-	英語	書籍	A 4	266	JIC-	1	Environmental Management Bureau (EMB)	借用後 JIC-	フィリピン環境アセスメントガイドライン 申請用書式あり
29	環境の現状	Location of Coral Reef, Mangroves and Wrecks	1997	Subic	英語	図面	変形	1面	JIC-	1	SEMA	寄贈	
30	環境の現状	List of Ecological Statuses of Critical Wildlife Species in the Subic Bay Forest Reserve	1997	Subic	英語	書面	A 4	21	JIC-	1	SEMA	寄贈	哺乳類、鳥類、両生類、爬虫類 リスト
31	環境の現状	Floral Species Inventory	1997	Subic	英語	書面	A 4	19	JIC-	1	SEMA	寄贈	植物リスト

収集資料リスト (6)

番号	カテゴリ	資料の名称	発行年	地域	言語	形態	版型	ページ数	カテゴリー 北緯の別	部数	収集先名称又は 発行機関	寄贈・購入 の別	備 考
3 2	環境保全 地区	Subic Protected Area Management Zones	1997	Subic	英語	書面	A 4	2	北緯-	1	SEMA	寄贈	
3 3	環境保全 地区	Locations of Observatory Stations and Responsible Agencies	1997	Subic	英語	書面	A 4	2	北緯-	1	SEMA	寄贈	
3 4	環境保全 地区	Historic and Religious Landmarks around the Subic Bay Freeport Zone (SBFZ)	1997	Subic	英語	書面	A 4	1	北緯-	1	SEMA	寄贈	
3 5	環境保全 地区	Six(6) Approved Recreational Fishing Sites within the Subic Bay Freeport Zone (SBFZ)	1997	Subic	英語	書面	A 4	1	北緯-	1	SEMA	寄贈	
3 6	観光	Designed by Nature. Enhanced by Man. Subic Bay Yacht Club	1997	Subic	英語	冊子	変形	1	カテゴリー	1	Subic Bay Water- Front Corporation	寄贈	パンフレット
3 7	海図	Subic Freeport Depth Soundings as of August 1995 (updated)	1995	Subic	英語	図面	変形	3面	北緯-	1	SEMA	寄贈	1:10,000 深淺測量図
3 8	地形図	Subic Bay 地形図	-	Subic	英語	図面	変形	1面	北緯-	1	SEMA	寄贈	海軍時代の詳細な地図
3 9	海図	Channel & Navigation & Mooring Facilities Map	1984	Subic	英語	図面	変形	1面	北緯-	1	SEMA	寄贈	1:25,000

収集資料リスト (7)

番号	カテゴリ	資料の名称	発行年	地域	言語	形態	版型	ページ数	カテゴリ 記号の別	部数	収集先名称又は発行機関	寄贈・購入 の別	備考
40	施設図	Subic Bay Freeport Locators Map (as of Dec., 1996)	Dec. 1996	Subic	英語	図面	変形	1面	記-	1	SBMA	寄贈	地形図に進出企業を7ドット
41	区域図	Subic Bay Map (W/Contour)	-	Subic	英語	図面	変形	1面	記-	1	SBMA	寄贈	
42	地形図	1/50,000地形図 NARRIA/1977	1977	Subic	英語	図面	変形	3面	カテゴリ	1	SBMA	寄贈	U S Naval Reservation 地区含む 政府発行の5万分の1地形図
43	予算	Summary of General & Administrative Expenses Seaport Department	1997	Subic	英語	書面	A 4	2	記-	1	SBMA	寄贈	SBMA/Nov.22 *96 1997年度港務局 予算案
44	貨物	・Cargo Volume ・1997 summary of cargo throughput ・comparative cargo throughput	1997	Subic	英語	書面	A 4	3	記-	1	SBMA	寄贈	SBF Secured Areaでの総取扱貨物 量(1994-96) May 28 *97 1/1-5/28までの総取扱 貨物量速報 マニラ港とのコンテナ貨物の比較
45	入港船舶	・1997 seaport weekly report ・seaport annual report - 1994:95-96 ・(no title : average vessel*s port call ...)	May 1997	Subic	英語	書面	A 4	3	記-	1	SBMA	寄贈	入港隻数95,96と97/5月までの速報 入港隻数94-96 船社一覧、入港船舶の別
46	所要日数	Distances from Major Cities to Subic Bay Freeport	-	Subic	英語	書面	A 4	1	記-	1	SBMA	寄贈	航路 (本当か)

収集資料リスト (8)

番号	カテゴリ	資料の名称	発行年	地域	言語	形態	版型	ページ数	カテゴリ別の別	部数	収集先名称又は発行機関	寄贈・購入の別	備考
47	組織	-Seaport department organizational chart -Port engineering division -port engineering division personnel list	1997	Subic	英語	書面	A 4	6	71°-	1	SBMA	寄贈	SBMA組織図 (港務局のみ) SBMA port engineering division 組織図 Detailed list of personnel
48	施設	Port Service Facilities	June 1997	Subic	英語	書面	A 4	1	71°-	1	SBMA	寄贈	手書き
49	予算	repair & maintenance	Nov. 22 1997	Subic	英語	書面	A 4	2	71°-	1	SBMA	寄贈	補修の98年度予算案
50	施設	Port Information	June 1997	Subic	英語	書面	A 4	2	71°-	1	SBMA	寄贈	係留施設の略元、説明
51	土地利用図	Proposed Land Use	1997	Subic	英語	図面	A 4	1面	71°-	1	SBMA	寄贈	現在の陸上側マスタープラン。世帯十舟下プラン
52	道路	-SUBIC-TIPO-MANILA EXPWY MAP -SUBIC-TIPO EXPWY MAP	1995	Subic -Manila	英語	図面	A 3	2面	71°-	1	SBMA	寄贈	DPWH/95? SBMA&DPWH/95 建設の際の当初計画図
53	7°DS/27	EXISTING CONDITIONS (NAVSTA, PNC, NSD, NAVSHIPREFAC COMPLEX Master Plan)	-	Subic	英語	報告書	A 4	18	71°-	1	SBMA	寄贈	報告書の抜粋 C/A時の資料5の最新版?

収集資料リスト (9)

番号	カテゴリ	資料の名称	発行年	地域	言語	形態	版型	ページ数	リジカル ペーの別	部数	収集先名称又は発行機関	寄贈・購入 の別	備考
54	コガガク	List of Consultancy Firms that prepare EIA documents	1997	-	英語	書面	A4	6	ペー	1	SBMA	寄贈	社名、所在地、TEL、FAX
55	コガガク	Woodward-Clyde Corporate Brochure 1995	1995	-	英語	冊子	A4	20	リジカル	1	Woodward-Clyde	寄贈	パンフレット
56	コガガク	COWI Annual Report 1995/96	1997	-	英語	冊子	A4	40	リジカル	1	COWI	寄贈	パンフレット
57	コガガク	SCHEMA konsult	1997	-	英語	冊子	A4	65	リジカル	1	SCHEMA konsult	寄贈	パンフレット
58	コガガク	Maunsell	1997	-	英語	冊子	A4	28	リジカル	1	Maunsell	寄贈	パンフレット
59	港湾運営	Interoffice memorandum	May 31 1997	Subic	英語	書面	A4	2	リジカル	1	SBMA	寄贈	港湾運営の民営化、荷役システム等
60	潮汐表	Tide Table on Manila South Harbour	1997	Manila	英語	書面	A4	6	リジカル	1	Philippine Port Authority	寄贈	DOTC 角研門家
61	潮汐表	平成9年 潮汐表 第2巻 太平洋およびインド洋	1997	Manila 3港、 Subic 港	英語	冊子	A4	25	ペー	1	海上保安庁	購入	日本水路図誌(株) 同地域の潮汐を網羅している
62	海図	PORT OLONGAPO AND VICINITY 縮尺: 12,500分の1	1970	Olongapo 周辺	英語	図面	変形	1	リジカル	1	日本水路図誌(株)	購入	米国海軍
63	海図	SUBIC BAY 縮尺: 25,000分の1	1982	Subic	英語	図面	変形	1	リジカル	1	日本水路図誌(株)	購入	米国政府海図

収集資料リスト(10)

番号	カテゴリ	資料の名称	発行年	地域	言語	形態	版数	ページ数	資料の別	寄贈・購入の別	備考
64	気象	CLIMATOLOGICAL NORMALS IBA, ZAMBALES 1961 - 1995	1997	Subic 周辺	英語	書面	A4	1	JIC- JIC-	購入	過去30年の平均降雨量、気温、 風向、風速
65	気象	CLIMATOLOGICAL EXTREMES IBA, ZAMBALES -AS OF 1995	1997	Subic 周辺	英語	書面	A4	1	JIC- JIC-	購入	過去30年の最大降雨量、気温、 風向、風速
66	気象	INFORMATION ON TROPICAL CYCLONE 1948 - 1994	1997	Cebu	英語	書面	A4	10	JIC- JIC-	購入	熱帯低気圧、ストーム、台風の定義、 頻度、最大風速、強度、範囲
67	設計指針	DESIGN MANUAL FOR PORT AND HARBOUR FACILITIES IN THE PHILIPPINE PORT AUTHORITY	1995	-	英語	書面	A4	557	JIC- JIC-	寄贈	港湾構造物設計指針 Prepared and submitted by Mr. Shogo Oba, JICA Expert
68	災害	VOUCANIC CRISIS IN THE PHILIPPINES: THE 1991 ERUPTION OF MOUNT PINATUBO	1997	Pinat ubo 周辺	英語	書面	A4	6	JIC- JIC-	-	ピナツボ山噴火の前後の記述 <a href="http://vulcan.wr.usgs.gov/Vcap/pina_yrbk-1991.html">http://vulcan.wr.usgs.gov/ Vcap/pina_yrbk-1991.html</a>
69	地質	GEOLOGICAL MAP OF THE PHILIPPINES 縮尺：250万分の1	-	741° N全土	英語	図面	変形	1	JIC- (ほか)	購入	フィリピン全土の地質を示す。
70	地質	GEOLOGICAL MAP OF THE PHILIPPINES 縮尺：100万分の1	-	741° N全土	英語	図面	変形	2	JIC- (ほか)	購入	フィリピン全土の地質を示す。
71	地質	GEOLOGICAL OUTLINE OF BATAAN PENINSULA, PHILIPPINES	-	バターン 半島	英語	図面	変形	15	JIC- JIC-	-	バターン半島の地質概要



収集資料リスト (11)

番号	カテゴリ	資料の名称	発行年	地域	言語	形態	版型	ページ数	オリジナル コピーの別	部数	収集先名称又 は発行機関	交還・購入 の別	備考
72	地震	世界地震活動地域における 地震危険度Map	-	フィリ ピ	英語	書面	A4	36	コピー	1	建築省建築研究所	購入	建築研究報告 No. 88 February 1980 地震活動域に基づいた 最大加速度の地域的分布
73	地形図	オロンガボ市の地形図 縮尺：1万分の一	-	Olong apo	英語	図面	変形	1	オリジナル	1	NAMRIA	購入	Edition 1 December 1993 スービック港湾地区と オロンガボ市がカバーされている
74	地形図	オロンガボ市の地形図 縮尺：5万分の一	-	Olong apo	英語	図面	変形	4	オリジナル	1	NAMRIA	購入	Reprinted by NAMRIA 1988-1990 スービック港湾のProject Study Areaがカバーされている。

No.	Item of Data/Information	収集 状況	前回 C/M 時	今回 I/A セッション時	備考
*印は I/A ミッション当初、特に重点をおいた収集を予定した項目					
<b>I. GENERAL INFORMATION</b>					
1. Development/Improvement plans and policies, by nation and by region					
1	*1) Economic development policies and plans	○	14,17,22		
2	2) Transportation development policies and plans	○	2,23,24, 26,27	52	
3	3) Industrial development policies and plans	○	15		
4	4) Forecast of socio-economic indicators	×			
<b>II. TRANSPORTATION SYSTEM between SUBIC and MANILA, and SUBIC and CENTRAL LUZON AREA</b>					
5	*1. Network maps and outlines (ports, roads, railways, and commercial flights)	△	2,8,25		
	2. Transport administration				DPWH(roads)
6	1) Administrative organization chart with jurisdictional responsibilities, budget and brief explanation				
	① SBMA	○	3		RA7227
	② Other indispensable organizations for this project	×			
<b>III. SUBIC PORT</b>					
1. Condition of Subic port					
8	1) Construction history	△			SBMA の本部 IF に展示資料あり
9	*2) Port related budget, financial conditions (annual budget, financial statement, loan, and etc.)	○		43	
10	3) Tariff table	△	8		

No.	Item of Data/Information	収集 状況	前回 C/M 時	今回 I/A ミッション時	備考
*印は I/A ミッション時当初、特に重点をおいた収集を予定した項目					
11	④ Statistical data for the last 5 years				
	*① Cargo volume by commodity, by each berth	△ 1		44	
	*② Container loads and transshipment	○ 8		44	
	*③ Vessel calls by type and size	△ 8		45	
	④ Passenger traffic	- 8			97.5 現在フェリーは運航休止
12	*⑤ Related information	13		46	
	① Shipping company and the network	△			
	② Hinterland and the major shippers of the port	×			
13	*⑥ Port management and operation	3			WB の報告書にも記述がある。
	① Organization chart with personnel allocation by each department or division	△		47	Personnel allocation の資料は作成中とのこと
	② Privatization	△			
	③ Container and cargo handling system	△		59	データの入手先のみ記述
	④ Training system for port employees	△			
14	*⑦ Development/improvement policies/plans	○ 4.9		7,8	
15	*⑧ Present condition of the development of the NSD area	○			JICA より資料あり コンサルを雇うのに 3 ヶ月、 それから入札に 9 ヶ月。(97.5)
16	*⑨ Related studies and plans	○ 3,12		40	WB II (CIM3) ADB(I/A40)
	① Reports of the study carried out by another donor				
	② Others				

No.	Item of Data/Information	収集 状況	前回 C/M 時	今回 I/A ミッション時	備考
	*印は I/A ミッション時当初、特に重点をおいた収集を予定した項目				
	2. Port facilities of Subic port				
17	*1) Inventory of facilities (location, dimension, completion date, capacity, utilization)	16			16 introduces the Shipyard
	① Berths	○	1.6	50	
	*② Channel and navigation and mooring facilities	○	5.6	39	
	③ Storage facilities	○	6		
	④ Cargo handling equipment	○	6		
	*⑤ Port service facilities(tag, pilot boat, etc.)	△		48	手書き資料
18	②) Technical standards for port facilities	△		67	設計指針(JICA 専門家作成)
19	③) Present conditions of superannuation, maintenance, improvement and repair of facilities	△	7		A WB report of 1992
	3. Land and coastal use in/around the port of Subic			49	メンテナンス部門 98 年度予算要求書
20	*1) The present conditions	○	11	40	
21	*2) Location of warehouses, stockyard and residential area	○		40	
22	*3) The ownership of land	○			All SBMA
23	4) Relevant laws and regulations	○	18.20		RA7916.RA7227
	4. Status of developments in the Subic bay area.				
24	1) Industries	△	3		
25	2) Commercial activities	△	3		
26	3) Tourism	△	3	36	ヨットクラブのパンフ(JA36)

No.	Item of Data/Information	収集 状況	前回 C/M 時	今回 I/A ミッション時	備考
*印は I/A ミッション時当初、特に重点をおいた収集を予定した項目					
5. Natural conditions					
27	1) Maps and aerial photographs				
	*① Topographical map	○	5	17,38,42 73,74	
	② Marine chart	○	5,19	17,39,62 63	
	*③ Geological map	○		69,70,71	
	④ Seismic map	○	5	17,72	
	*⑤ Aerial photographs	×			97 末に WB 調査の一環で撮る予定
28	*2) Meteorological conditions	○	5	17	
	① Climate ② Winds			64,65,66	
	③ Special phenomena(storm weathers, earthquake)				
29	*3) Hydrographic conditions				
	① Tides, Waves, Tidal currents	○	5	17,60,61	
	② Littoral drift, siltation, and erosion	×			
	③ Bathymetric maps(water-depth)	○	21	37	
30	*4) Water quality and bottom sediment				
	① Water quality	○		14	
	② Bottom sediment	○		14	
	③ Boring Data(onshore and/or offshore boring)	○	5,21	17	
	④ laboratory soil testing Data	×			
31	5) River flow	×			

No.	Item of Data/Information	収集 状況	前回 C/M時	今回 I/A ミッション時	備考
*印は I/A ミッション時当初、特に重点をおいた収集を予定した項目					
IV. PROJECTS RELATED TO THE SUBIC BAY DEVELOPMENT					
1. Port of Manila					
32	*1) Shipping services by main sort ① Container ② Conventional	×			
33	*2) Development/improvement ① Policies/plans ② Alternative port	×			
34	3) Related studies and plans ① Reports of the study carried out by another donor ② Others	×			
35	*4) Hinterland and major shippers of the port 2. Clark Air Base Project	×			
36	*1) Development/improvement policies/plans	△		12	
37	*2) Status of the development	△			口頭で説明、議事要旨参照
38	3. Other related project	△		10	ルイシタ工業団地
V. ENVIRONMENT CONDITIONS					
1. Environmental criteria					
39	*1) Environmental quality standards on: ① Air quality ② Water quality ③ Noise ④ Vibration	○	10	25,27	④ ×
40	*2) Regulation for each pollutant's source such as factories vehicles and ships on: ① Emission gas ② Effluent ③ Noise ④ Vibration	○	10	19,20,21, 24,26,27	④ ×

No.	Item of Data/Information	収集 状況	前回 C/M 時	今回 I/A ミッション時	備考
*印は I/A ミッション時当初、特に重点をおいた収集を予定した項目					
2. IEE and/or EIA					
41	*1) Laws/guidelines related to Initial Environmental Examination(IEE) and Environmental Impact assessment(EIA) for Ports/Harbours	○	10	3,15,16,17 18,23,26, 28	
42	2) Responsible ministry or agency related to IEE/EIA	○	10	3,15,16,17 18,23,26, 28	
43	*3) Procedure of IEE and/or EIA	○	10	3,15,16,17 18,28	
3. Environmental protection area by law and regulation					
44	*1) Historic and religious spots and landscapes around Subic bay	○	5,11	34	
45	*2) National and natural parks around Subic bay	○	5	5,6,32	
4. Environmental vulnerable area					
46	*1) Location of mangrove forest, coral reef, submerged reef, wetland, tideland etc.	○	5	14,29	
47	*2) Rare and endangered Species in the area	○	5	14,30,31	
5. Present qualities of natural environment in Subic bay and their observatory stations:					
48	*1) Existing Data ① Air quality ② Water quality of river and sea ③ Noise ④ Vibration	○	5	13,14	Data ③ are available as airport related data. ④ X
49	*2) Locations of observatory stations and observatory frequency at observatory stations	○		13,14,33	

No.	Item of Data/Information	収集 状況	前回 C/M時	今回 I/A ミッション時	備考
*印は I/A ミッション時当初、特に重点をおいた収集を予定した項目					
50	*3) Responsible agencies related to their observation	○		33	
	6. Others				
51	*1) Geographical distribution about fisheries around Subic	○		22,35	
52	*2) Water rights, fishery rights and rights of common around Subic	○		22,35	
53	*3) Number of fishermen around Subic	○		-	Subic 湾は Commercial Fishing 禁止
VI. Consultants and Surveyors					
54	*1. list of consultants	○		54~58	
2. Cost of investigation and survey and salary for consultants(Unit of price)					
55	*1) Boring	○		別途 単価表	
56	*2) laboratory soil tests	○			
57	*3) Topographic survey	○			
58	*4) Hydrographic survey (Sounding, Wave and Current Observation)	○			
59	*5) Air quality survey	○			
60	*6) Water quality survey	○			
61	*7) Noise/Vibration survey	○			
62	*8) Seabed material(Bottom sediment sampling)	○			
63	*9) Traffic(origin-destination) survey	○			
64	*10) Fauna and flora survey	○			
65	*11) Social environment study	○			



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