設計にあたっては、できるだけ汎用性のある設計方式が望ましい。インドネシア国ではフェリー施設の需要増大が見込まれ、本調査の対象外であった地域においてもインドネシア側の自助努力と本調査成果の応用如何によって更にフェリー網の整備が促進され得るためである。

積算にあたってはサイトがジャカルタから遠距離にあるため、材料・機器の輸送・調達にも配慮する必要がある。

5）実施計画作成

工事方法等を十分考慮したうえで短期整備計画の具体的な工程（年次別計画、投資計画等）を検討する。

6）経済解析

フェリー網形成に関する経済解析を行う。便益の捉え方は社会・経済的インパクトが大きく、さまざまな要素が考えられるが、経済解析の便益項目についてはインドネシア側と協議・調整を行っておく必要があろう。

7）財務解析

フェリー輸送の運営主体に関する財務解析を行う。

インドネシア国ではフェリー・ターミナルの施設はＤＧＬＴが所有しており、フェリー公社は施設使用料を支払う（ただし、原則的には船舶はフェリー公社所有）システムであるが、ここではフェリー公社を財務解析の主体として取り上げる。ただし、その前提として民間フェリー会社との機能的な分担を整理する必要があろう。

8）フェリー港の管理・運営に関する改善策

対象フェリー・ターミナルの管理・運営主体に関する問題点を把握し、将来の改善策を検討する。

4－3　自然条件調査

(1)　マスタープラン（Ｍ／Ｐ）調査における自然条件調査

Ｍ／Ｐ段階では想定されるサイトにおいて以下の調査を実施する必要があるが、これを効率的に実施するために、自然条件担当２名で地域を分担し現地補助員を活用して現地踏査を行う必要がある。

また、サイト位置が既存地形図ないし海図において明示されている必要があり、これが不明確なサイトについては計画担当者があらかじめ現地踏査を実施したうえで自然条件担当者に明確に地点を指示することが求められる。

1）水深測量

桟橋の位置及び規模を決定するための調査であり、簡易な方法で１測線程度の水深を確

認する。

2）地形確認

各ターミナルの概算コスト積算に必要となる土量等を算出するため、目視及び簡易レベル等による地形確認を行う。

3）地質確認

各サイトにおける地質の表面的確認を行う。

4）潮流観測

潮流については浮き子等により表層の流れを確認する。

(2) フィージビリティ調査（F／S）における自然条件調査

F／S 段階では以下の調査を実施することを前提とするが、インテリム・レポートまでの作業進捗状況に応じて見直す必要が出ることも考えられる。

1）地形測量

地形測量の範囲は想定されるターミナル部分と既存道路からサイトまでのアクセス道路の計画部分について実施する。

縮尺は 1/1,000程度とする。

2）深浅測量

短期整備計画で必要となる範囲において深浅測量を行う。測線のピッチは 10m 程度とし、原則としてレッド式により実施する。

縮尺は 1/1,000程度の図面とし、上記地形図に合致させる。

3）潮位観測

連続 15日間程度の潮位観測を行う。解析においては調和分解を行い、設計に必要な各潮位を求める。

4）潮流観測

各サイトにおいて 2 カ所程度の大潮時、小潮時の連続 25時間の潮流観測（2 層）を行う。

5）土質調査

各サイトにおいて 2 カ所程度のボーリングを実施、N 値、1 軸圧縮強度、成分解析等を行う。

6）波浪推算

収集した風資料を基に波浪推算を行う。

4－4　実施スケジュール

S／W添付のスケジュールを基本とし、進捗に応じて次のレポートを提出する。

(1) インセプション・レポート（40部、第 1 次現地調査開始時）

調査の開始にあたり全体工程、調査の内容・手法、調査実施体制及びインドネシア側が提供すべき便宜供与内容（カウンターパート配置計画、車両・ドライバー配置計画等）等を提示し、インドネシア側に説明のうえ、合意を得る。

(2) プログレス・レポート（Ⅰ）（30部、第1次現地調査終了時）

「資料・情報の収集・解析」及び「現地踏査」について結果をまとめる。なお、現地踏査結果について解析が未了のものは、とりあえず生データのみを提示しておくこととする。

(3) インテリム・レポート（40部、第2次現地調査開始時）

第1次現地調査の結果に基づき、「社会・経済フレームワークの設定」、「需要予測」及び「マスタープラン策定」を行い、インテリム・レポートにまとめる。また、同レポート説明時にインドネシア側と協議のうえ、F／S対象路線を確定する。

(4) プログレス・レポート（Ⅱ）（30部、第2次現地調査終了時）

第2次現地調査で実施する自然条件調査及び国内でとりまとめる短期整備計画の結果を報告する。

(5) ドラフト・ファイナル・レポート（60部、第3次現地調査時）

F／S結果を含め全ての作業結果をまとめ、インドネシア側に提出・協議する。

(6) ファイナル・レポート（70部、調査完了時）

ドラフト・ファイナル・レポートに対するインドネシア側のコメントを検討したうえで、必要となる修正を加え、最終成果品として作成する。

4－5 本格調査団の構成

本格調査団の分野構成及びそれぞれの主な担当業務は以下のとおりとすることが適当と考えられる。

(1) 総括

全作業項目を総括・集約し、インドネシア側と包括的協議を行い、調査全体にわたる精度の向上と調和の確保を担任する。

(2) 港湾計画

対象ルート及びターミナル位置を詳細確定する。フェリー網整備の基本的考え方を提示する。各ルート及びターミナルについてM／P（長期整備計画）の立案、優先順位の検討、短期整備計画（配置計画を含む）の作成及びF／Sにおける総合評価等を行うとともに、他の分野に対しては計画業務上の指針を示す。

なお、本分野の業務を効率的に実施するためには、調査期間が短縮されたことからも担当を2名とすることが必要である（原則として、第1回現地調査中に全対象地域（9ルート）を踏査するとともにM／Pに関する検討を行う必要があり、またターミナルの新設と改良と

では計画作成のアプローチも異なるため、これらの業務量から担当を2名としたものである)。

(3) 需要予測

社会・経済フレームワークの設定、交通需要予測（モデル作成を含む）を行う。

(4) 経済解析

F／Sにおける経済解析を行う。

(5) 財務解析／管理・運営

管理・運営に関する現状の問題点を把握し、長期的及び短期的な対応策に係る提言を行う。

F／Sにおける財務解析を行う。

(6) 船舶運航計画

各計画段階におけるフェリーの運航計画を策定する。

(7) 自然条件

M／P及びF／Sに必要となる自然条件調査を実施する。

なお、本分野の業務については2名による実施が妥当と考えられる。

(8) 港湾施設設計

設計条件に係る検討を行ったうえで、M／P及びF／S各段階の概略設計を行う。

(9) 施工・積算

M／P及びF／S各段階の概略工費積算を行う。

短期整備計画の実施計画を検討する。

4－6 関連する調査の動向

本事前調査団が現地滞在中においてインドネシア国政府は「東部インドネシア海運総合近代化計画調査」の実施を我が国へ要請することとしている。同調査は、東部インドネシアの内航海運の近代化計画を策定しようとするものであり、サブセクターとして港湾整備、海運振興、船員教育、航行安全、造船分野を含む海運関連の全てを網羅するセクター・スタディである。

これらのサブセクターのうち航行安全については「航行援助施設整備基本計画調査」（1985年）、船員教育については「海運学校整備基本計画調査」（1978年）が、既に我が国の協力により実施されており、これらの内容及びその提案は基本的に現在でも有効と考えられるため、上記調査の主要部分は港湾整備と今回の調査で実施するフェリー網以外の海運ネットワークの整備が中心となると思われる。

このほかに、インドネシア国は平成3年度から東部インドネシアにおける海運セクター・ローンを我が国に要請することを検討しているといわれ、またESCAPの協力により"Regional Maritime Strategy Study"を実施し海運モデルの作成や新たな海運政策の策定を計画している。

このようにインドネシアの海運をめぐりさまざまな動きがあり、海運セクター・スタディとして上記調査を実施するにあたっては、これらの動向を十分に把握するとともに、実施内容の調整を行う必要がある。

附　属　資　料

1. 要請書（TOR）
2. 質問書
3. ディスカッション・ペーパー
4. S／W
5. ミニッツ
6. ローカル・コンサルタント・リスト
7. 収集資料リスト

附属資料1. 要 請 書 (TOR)

Code Number : FTA - 367

1. Project Title : MASTERPLAN STUDY FOR NATION WIDE FERRY SERVICE ROUTES

2. Location : Java, Bali, Nusa Tenggara, Lombok, Maluku.

3. Executing Agency : Directorate General for Land Transport and Inland Waterways, Ministry of Transport

4. Objectives :
   - To upgrade and reinforce the current ferry service system;
   - To formulate a plan for the year 2010 and to make a feasibility study on priority ferry route development.

5. Project Description :
   (1) To improve the efficiency and develop the following potential ferry links according to the policy and strategy set out in the next Five Year Development Plan (REPELITA V) :
   - South link : from Sabang of North Sumatera through Java, Bali, Nusa Tenggara to Los Palos of East Timor.
   - Maluku Archipelago : from Nusa Tenggara to Maluku Archipelago and among the islands of Maluku.

   (2) To prepare a comprehensive master-plan of the ferry service system and study the selected potential ferry routes and to propose implementation programme that would lead to preparation of project proposals for immediate investment.

6. Scope of Assistance Requested :

a. expert services	: 290 m.m	= US.$.	2,900,000.
b. fellowships	: m.m	=	-
c. equipment	:	=	-
	Total Cost	= US.$.	2,900,000.

7. Related to Project Aid : --

The Application Form for Japan's Development Survey

Application The Government of Republic of Indonesia	Project Title : Master Plan for Development and Improvement of Nationwide Ferry Service
Total Project Cost	¥ 434,000,000.-
Responsible Ministry [Ministry requesting it] Ministry of Communication	Implementing Agency [Agency in charge of execution of the project] : Directorate General of Land Transport and Inland Waterways

Project Description

1. Background [Please describe in detail]

[1] Current situation of the Sector

The number of ferry service routes in the country has amounted to 27 lines using 78 ferry ships. In 1987 total passenger transported by ferry were 21,060,707 and 2,999,674 vehicles and 3,490,753 ton of cargoes.
The ferry services have played the important role in the field of cargo movement between neighboring islands.

[2] Problem to be solved in the Sector

The followings are required to be developed and improved:

- Imbalance of supply and demand on the route level. There is over tonnage in the large density and lucrative routes while the others are insufficiently served.
- Insufficient / inadequate safety and service levels of operation.
- Insufficient terminal facilities
- Lack of proper maintenance of vessels
- Weak institutional frame work

[3] Necessity and Importance of Improvement in the Sector which lead to the formulation of the Project

While expanding the socio-economical development to local areas, the demands for reliable and regular inter-island transport has rapidly generated. In order to meet such increasing demands as well as upgrade the safety and service levels, it has planned to construct 65 new ferry terminal facilities and rehabilitation of 16 existing terminals.

[4] Relations between the Sector and the Project

The Master Plan and implementation program of nationwide ferry development shall be prepared under this Project, based on which the sector shall execute the development of ferry network and their facilities and manage / operate these facilities.

[5] Reasons why Japan's Development Survey is requested for this particular Project

The construction of Merak-Bakauhuni ferry terminals which is major parts of trunk line connecting Java island to Sumatera were executed under the OECF, Japan, in 1978 to 1981 and 1986 to 1989.

2. Objectives and Outline of the Project

[1] Objectives of the Project

[i] Short-term Objectives

The objective of study to upgrade and reinforce the current nationwide ferry service system is to formulate the Master Plan target in the year 2010 and to make order of merit for development by conducting a feasibility study.

Implementation of development of proposed ferry routes and improvement of existing ferry terminals including ship procurement and their operations.

[ii] Medium and Long-term Objectives

The long-term objective of the Project are to link all major islands from Sumatera to Irian Jaya through Java, Bali islands as south route and from Irian Jaya to Sumatera through Halmahera, Sulawesi and Kalimantan as north route.

[iii] Please fully describe the relations between the project and objectives, and how the project will contribute to the accomplishment of the objectives.

The development and improvement of ferry services will directly support the development in various sectors and regions especially in residential areas in the hinterland and remote places.
Reinforcement of existing ferry routes will meet further increasing demands.

[2] Outline of the Project

The study shall be carried out in two phases;

[i] Phase-I Master Plan:

- Site Reconnaissance Survey
- Origin - Destination survey
- Demand forecast
- Study of Optimum size and type of ships
- Master Planning of ferry routes development

[ii] Phase-II Feasibility Study

- Field investigation, topograhic, hydrographic, oceanographic survey.
- Preliminary design of facilities
- Implementation program
- Feasibility study evaluation

[3] Location Plan

See the attachment I.

[4] Cost Estimates [Please describe in detail all the premises on which the cost estimates are based]

Expert Service		¥ 406,000,000
Fellowship		¥ 28,000,000
T O T A L	:	¥ 434,000,000

3. Other Assistance

[If there was any Assistance in the past from JICA or other donors or request closely related to this project, please fill in below]

[i] Name of the donors

JICA

[ii] Title and outline of the assistance

The study on the future demand of the inter-island traffic.
The study is to forecast of inter-regional traffic volume and demands by each mode of the transportation, particularly air.

[iii] Possibilities that the donor will extend the assistance requested:

The report implied to study the forecast of inter-island traffic volume and demands by sea and ferry transport.
It is possible that the donor will extend the assistance.

[iv] In the case where other donors do not extend assistance, please describe in detail appropriateness and effectiveness of this project:

4. Priority

[Please describe priority of this project among other projects for which requests are made to Japan]

Highest priority to establish the frame work for development of nationwide ferry routes.

[Please attach project list with priorities]

5. Preparation

[1] Project Site [Please attach photographs and maps if it's possible]

[i] [a] Location of the Site : See the attachement 1.

Name of Site :

[*] Existing Routes

Sumatera Region:
Palembang - Kayu Aran ③
Bangka - Belitung ④

Timor Region:
Larantuka - Kupang ⑪

Sulawesi Region:
Bajoe - Kolaka ⑮

Ambon Region:
Wainuru - Waipirit ⑲

[**] New Routes

Timor Region:
Larantuka - Waiwerang - Lewolebang

Sulawesi Region:
Bitung - Sian - Tahuna

Ambon Region:
Bastin - Sidangolo
Galela - Pitu

Irian Jaya Region:
Biak - Serui - Nabire

(b) Total Area of the Site

(ii) Land Preparation

(a) To which extend has the land been expropriated for the project ?

The land for construction of new ferry terminals were procured.

(b) When will the expropriation of the land be completed ?

[Please attach the laws and procedures concerning the expropriation of land]

[2] Electricity, Water Supply, Telephone, Drainage and Other Facilities

[Please describe the extent to which above mentioned incidental facilities have been prepared]

Electricity and Water Supply facilities have been prepared.

[3] Is there any information, statistica and data regarding geographical, geological, meteorological, oceanogrpahical situations, etc.

[if any, please attach those information]

See the attachment 2.

6. Improvement Plan [if any, please describe in detail the contents of such a plan that will anable the Agency to handle the Project more effectively and efficiently].

The nationwide ferry network development project will be executed and improved based on the National Development Plan [REPELITA V].
The sector requested the Government of Japan to depute the experts of ferry service development who advice and supervise the formation of project execution effectively.

See the attachment 3.

7. Operation and Management of the Project

[1] The number of personel

[In the case where necessary personel are not yet secured, when and how this is to be done]

[2] Budget [Please fill in the budget in the below table]

	2 years ago [19]	1 year ago [19]	Now [19]	When the Project will be completed [19]
Supervising Ministry				
Implementing Agency				
Direct Budget of the Project				

[In the case where additional budgetary allocation is needed for the implementation of the project, please answer the following question]

[i] Has the additional budget been already allocated ?

1. Yes 2. No

[ii] If no, how and when will the additional budget be allocated ?

[3] Technical Abilities of Local Staff

[i] Please describe technical abilities of local staff operating the project.

[ii] Please describe in detail educational background of those who are in charge of the operation and management.

8. List of Related Projects

[Please fill in below if there is a project executed by another donor country of international organization in related areas.]

[1] Name of donor

[2] Project Title

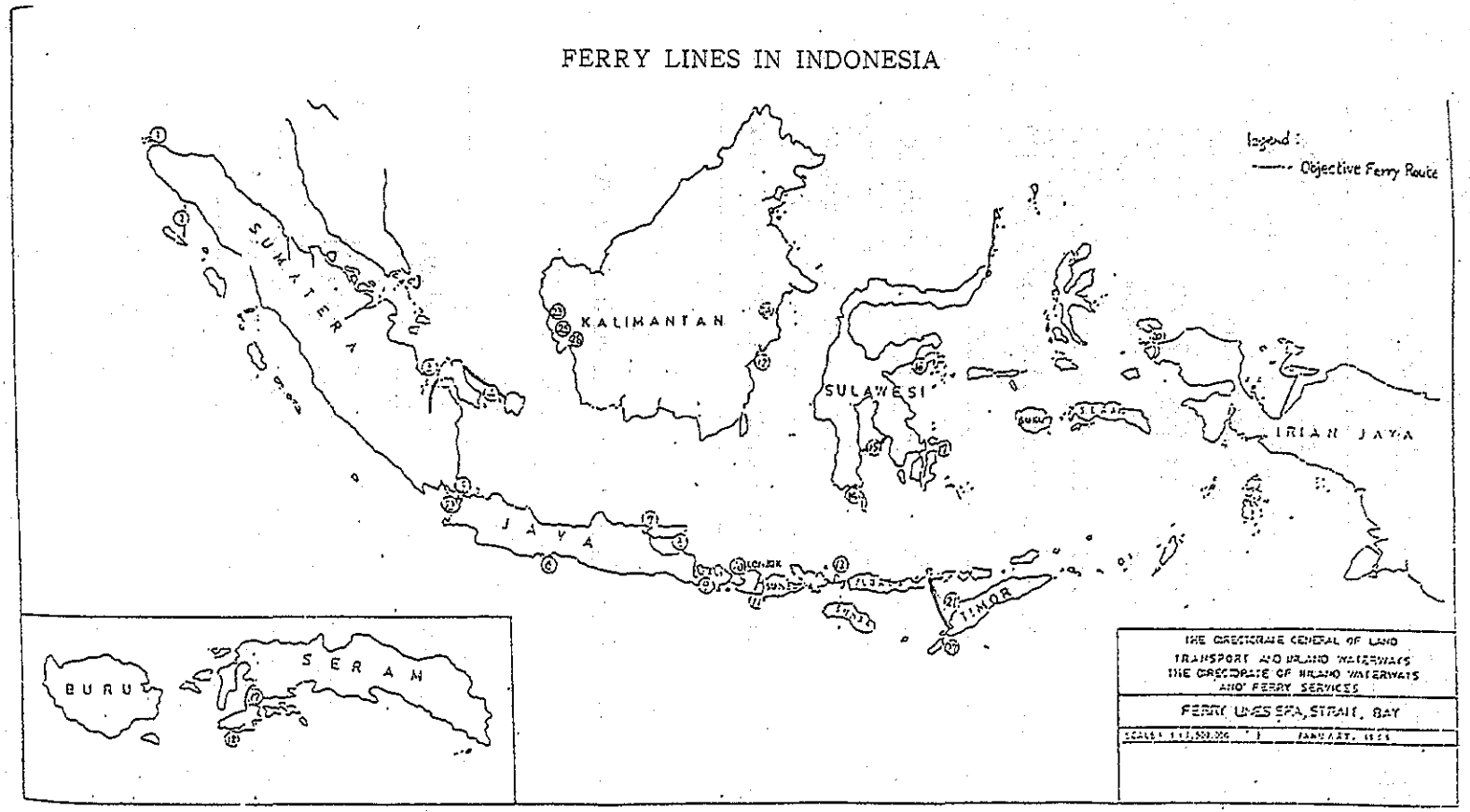
[3] Project Outline

[4] Type of Assistance
[grant, loan,
technical assistance,
etc.]

[5] Project Period

[6] Relation with
this Project

FERRY LINES IN INDONESIA



	ROUTE	DISTANCE (MILE)	NUMBER OF BOATS	NUMBER OF TRIP	TIME OF TRIP
1.	Dalahan - Malahayati	15.00	2	2 trips/day	1 : 20 hr
2.	Meulaboh - Sinabang	101.00	1	4 trips/week	14 : 10 hr
3.	~~Pekanbaru - Tanjung Balai Asahan~~	~~82.00~~	~~2~~	2 trips/day	10 : 00 hr
4.	~~Dumai - Dumai Kampung~~	~~97.00~~	~~1~~	1 trip/day	16 : 00 hr
5.	Marak - Bakauheni	15.00	9	48 trips/day	1 : 30 hr
6.	Kalipucang - Cilacap	35.00	7	6 trips/day	3 : 00 hr
7.	Ujung - Kamal	2.50	10	198 trips/day	0 : 20 hr
8.	Jangkar - Kalianget	40.00	2	1 trip/day	4 : 00 hr
9.	Ketapang - Gilimanuk	4.00	7	112 trips/day	0 : 30 hr
10.	Padangbai - Lembar	34.00	3	6 trips/day	4 : 00 hr
11.	Lembar - Alas	22.00	6	6 trips/day	3 : 00 hr
12.	Penajam - Balikpapan	8.00	3	10 trips/day	1 : 00 hr
13.	Sape-Komodo-Lb. Bajo	54.00	1	1 trip/day	8 : 00 hr
14.	Bira - Pamajata	17.00	1	2 trips/day	3 : 00 hr
15.	~~Bajoe - Ketake~~	~~96.00~~	~~3~~	2 trips/day	10 : 00 hr

	ROUTE	DISTANCE (MILE)	NUMBER OF BOATS	NUMBER OF TRIP	TIME OF TRIP
16.	Luwuk - Salakan	46.00	1	1 trip/day	6 : 00 hr
17.	Torobulu - Tampo	20.00	1	2 trips/day	1 : 30 hr
18.	Poka - Galala	.50	2	50 trips/day	0 : 10 hr
19.	~~Halmahera - Halipirit~~	~~[illegible]~~	~~1~~	4 trips/day	1 : 30 hr
20.	Sorong - Jeffman	15.00	1	4 trips/day	2 : 30 hr
21.	~~Larantuka - Kupang Pote~~	~~80.00~~	~~1~~	1 trips/day	14 : 00 hr
22.	Marak - Panjang	56.00	2	4 trips/day	4 : 30 hr
23.	Pontianak City	.80	2	50 trips/day	0 : 20 hr
24.	Samarinda City	.60	1	25 trips/day	0 : 20 hr
25.	Semuntai River Crossing	.50	1	72 trips/day	0 : 20 hr
26.	Kartinza River Crossing	.50	1	50 trips/day	0 : 20 hr
27.	Kupang - Ruce	40.00	1	4 trips/week	2 : 30 hr

FERRY ROUTES IN INDONESIA (IN OPERATION 1987)

Table 1 Number of Passenger by Inter-island Sea Transport and Air Transport

Shipping Sector	1980	1981	1982	1983	1984
RLS	635,099	585,694	489,625	495,245	726,577 [3.8%]
Local	172,017	551,249	593,290	612,050	610,959 [3.2%]
Rakyat	-	121,817	260,739	274,347	144,107 [0.8%]
Pioneer	-	168,183	161,387	127,848	139,806 [0.7%]
Ferry	13,127,517	11,685,612	13,688,963	13,021,584	17,460,440 [91.5%]
Sub-total by Sea	13,934,633	13,112,555	15,194,004	14,531,074	19,081,889
by Air	N.A.	N.A.	6,306,189	6,283,803	6,343,233
T O T A L	13,934,633	13,112,555	21,500,193	20,814,877	25,425,122

Table 2 Transport Volume by Ferry Services in Whole Indonesia

Y E A R	1978	1984	1985	1986	1987	1988
Passenger ['000 Ton]	10,221 [100.0]	17,836 [174.5]	17,647 [172.7]	21,391 [209.3]	21,061 [206.1]	
Cargo ['000 Ton]	923 [100.0]	2,571 [278.5]	2,726 [295.3]	2,849 [308.7]	3,491 [378.2]	
Vehicles ['000 Ton]	1,293 [100.0]	2,659 [205.6]	2,813 [217.6]	2,901 [224.4]	3,000 [232.0]	

Source : DGLT

Table 3 Cargo Movement between Neighboring Islands in 1986

Unit: ton

REGION OF ORIGIN & DESTINATION	FERRY SERVICE	OTHER MARITIME TRANSPORTATION	TOTAL
South Sumatera - West Java [Merak - Bakauheni]	1,313,765 [33.4%]	2,621,443 [66.6%]	3,935,208 [100%]
East Java - Bali [Ketapang - Gilimanuk]	679,712 [62.0%]	427,274 [38.0%]	1,124,986 [100%]
Bali - West Nusa Tenggara [Padangbai - Lembar]	74,275 [49.3%]	76,527 [50.7%]	150,802 [100%]
West N.T. - East N.T. [Sape Komodo - L.Bojo]	304 [2.5%]	11,886 [97.5%]	12,190 [100%]
	2,068,056 (40 %)		5,222,686

Source: "Lalu Lintas Angkutan Antar Pulau 1984", DGLT
Area : South Sumatera consists Jambi, Sumatera Selatan, Lampung, Bengkulu.

Table 4 Future Air and Sea Passenger Demand

YEAR	AIR PASSENGER	SEA PASSENGER	TOTAL
1984	6,869 [27.0%]	18,566 [73.0%]	25,435 [100.0%]
1994	9,036 [27.6%]	23,703 [72.4%]	32,739 [100.0%]
2004	12,026 [28.0%]	30,873 [72.0%]	42,899 [100.0%]

Note : Unit : 1,000 trips
Assumed GDP Growth Rate : 5%

TABLE 5 THE GOALS IN THE DEVELOPMENT OF RIVER, LAKE, AND FERRY TRANSPORTATION FACILITIES DURING REPELITA V

DESCRIPTION	TOTAL
A. INFRASTRUCTURE	
1. Terminal / Ferry pier	
- Rehabilitation	16 units
- Construction	63 units
2. Lake pier	
- Rehabilitation	4 units
- Construction	10 units
3. River pier	
- Rehabilitation	22 units
- Construction	14 units
4. River and Sea signals	4,662 units
B. FACILITY:	
1. Rehabilitation of ferry	12 units
2. Ferry	8 units

附属資料2. 質 問 書

QUESTIONNAIRE
FOR
THE DEVELOPMENT STUDY
ON
THE NATIONWIDE FERRY SERVICE ROUTES
IN
THE REPUBLIC OF INDONESIA

February 1991

The Preliminary Study Team
for
the Development Study on the Nationwide Ferry Service Routes
in the Repblic of Indonesia

This questionnaire is prepared by the Japanese Preliminary Study Team to get basic information and necessary data to for the formulation of the fullscale study to be followed.

We would appreciate it very much if you would provide us with appropriate responses to each item.

Please respond to the items in the way as follows:

- ◉-marked items: to be provided and taken to Japan with us;
- ○-marked items: expected to be provided to us;
- △-marked items: to be described by DGLT Officials;
- □-marked items: to be checked if they are available or not, only.

PART-I: Questionnaire in general

1. Development Plans

○ (1) National development plans

○△(2) Transportation sector development plans

○△(3) Development studies in the ports and shipping sector reported by local consultants and/or by the other donors except Japan

2. Socio-economic Indicaters

○ (1) Annual national budgets by sector for last 5 years

○ (2) GDP by region and by sector for last 5 years

○ (3) Population by region and sub-region

□ (4) Other data indicating the socio-economic characteristics

3. National Transportation System

◎ (1) Network maps of national transportation systems by each mode

○ (2) Traffic flow data and forecasts on cargo and passenger by each mode

4. Port Management

◎ (1) Organizations and their functions of administrative bodies in port sector

◎ (2) Organization charts of DGLT, DGSC ,Perum ASDP and other authorities concerned to the port management (Please attach a description of the function of each section of planning, financing, construction, operation, facility maintenance, etc.)

5. Seafarers engaged in the national shipping

○ (1) Number of seafarers

○△(2) employment conditions and wages of seafares

6. Martime laws and regulations of the national shipping

△ (1) Laws/Acts on franchising system

△ (2) Approvement system of fare and freight rate

□ (3) Other laws and regulations related to ferry shipping

7. Local Consultants

◎ (1) List of local consultants in natural condition survey and O-D survey with their performmance record, if possible

◎ (2) Average billing rates for local engineers and technicians

◎ (3) Sample estimations for wind observation, topographic survey, boring survey, sounding survey, soil test, wave observation, etc.

◎ (4) Sample estimations for O-D survey (Interview survey for passenger and vehicle driver)

PART-2 : Questionnaire for ports and routes

1. Ports related to 10 routes (Table 1,2)

◎△ (1) List of port facilities and their conditions

◎△ (2) List of navigational aids and their conditions

◎△ (3) Accessibility from hinter-land

◎ (4) Related road construction plan

◎△ (5) Management body of ferry terminal

◎ (6) Financial statements of ferry terminal operator for last 10 years

◎ (7) Origin-destination survey data

◎ (8) Whole cargos and passengers statistics of each port
(espesially express data of ferry transportation)

(9) Natural conditions (in accordance with following table 2)

2. 10 Routes (Table 3)

◎ (1) Port cargos and passengers statistics on each route
(espesially express data of ferry transportation)

◎ (2) List of all vessels with following information for each route
(owner/operator,type,size,tonnage,age etc.)

◎ (3) Informations on each route related to ferry operation and management

Please,write your answers in the attached Tables and collect latest data and information during our staying in Indnesia.

※ reference : the questionnaire check list (Table 1～3)

Table 1-1

NAME OF PORT	QUESTIONNAIRE CHECK LIST								
	(1)Port Facilities		(2) Navigational Aids		(3) Accessibility	(4)Related Road Construction Plan	(5)Management Body	(6)Financial Statement of Ferry Terminal	(7)O-D Survey Data of Ferry Terminal
	List	Layout Map	List	Layout Map	(mode,distance, condition etc)	(National plan regional plan etc)	(including Port Management Body)		(existing or not, surveying body etc)
PALEMBANG									
KAYA ARAN									
BANGKA									
BELITUNG									
LARANTUKA									
KUPANG									
BAJOE									
KOLAKA									
WAINURU									
WAIPIRIT									
WAIWERANG									
LEWOLEBANG									
BITUNG									
SIAN									
TAHUNA									
BASTIN									
SIDANGOLO									
CALELA									
PITU									
BIAK									
SERUI									
NABIRE									
Mark	◎	◎	◎	◎	◎ △	◎	◎ △	◎	◎

legend ◎-marked items : to be provided and taken to Japan with us;
○-marked items : expected to be provided to us;
△-marked items : to be described by DGLT officials;
□-marked items : to be checked if they are available or not. only

Table 1-2

NAME OF PORT	QUESTIONNAIRE CHECK LIST				
	(8) Statistics of Port (Whole Cargo and Passenger)				
	Cargo		Passenger		
	Ferry	Others	Ferry	Others	
PALEMBANG					
KAYA ARAN					
BANGKA					
BELITUNG					
LARANTUKA					
KUPANG					
BAJOE					
KOLAKA					
WAINURU					
WAIPIRIT					
WAIWERANG					
LEWOLEBANG					
BITUNG					
SIAN					
TAHUNA					
BASTIN					
SIDANGOLO					
CALELA					
PITU					
BIAK					
SERUI					
NABIRE					
Mark	◎	◎	◎	◎	

legend ◎-marked items : to be provided and taken to Japan with us;
○-marked items : expected to be provided to us;
△-marked items : to be described by DGLT officials;
□-marked items : to be checked if they are available or not, only

Table 2-1

NAME OF PORT	QUESTIONNAIRE CHECK LIST ((9) NATURAL CONDITIONS IN EACH PORT)							
	Information of Existing Facilities (for Improvement)						Information of New Facil-lities for Construction	
	Design Standards	Figures of Standerd Section Designed for Mooring and Terminal Facilities	Design Conditions (Surcharge.ships,etc)	Age of Facilities	Record of Maintenance	Design Life	Design Conditions	Design Life
PALEMBANG								
KAYA ARAN								
BANGKA								
BELITUNG								
LARANTUKA								
KUPANG								
BAJOE								
KOLAKA								
WAINURU								
WAIPIRIT								
WAIWERANG								
LEWOLEBANG								
BITUNG								
SIAN								
TAHUNA								
BASTIN								
SIDANGOLO								
CALELA								
PITU								
BIAK								
SERUI								
NABIRE								
Mark	○	○	○	○	○	○	○	○

legend ◎-marked items : to be provided and taken to Japan with us;
○-marked items : expected to be provided to us;
△-marked items : to be described by DGLT officials;
□-marked items : to be checked if they are available or not, only

Table 2-2

NAME OF PORT	QUESTIONNAIRE CHECK LIST ((9) NATURAL CONDITIONS IN EACH PORT)						
	Soil Conditions			Earthquake Data		River Conditions	
	Boring Data	Results of Soil Tests	Sea Bed Materials	List of recorded Earthquakes	Seismic Coefficient	Flow Discharge	Sedimentat Discharge
PALEMBANG							
KAYA ARAN							
BANGKA							
BELITUNG							
LARANTUKA							
KUPANG							
BAJOE							
KOLAKA							
WAINURU							
WAIPIRIT							
WAIWERANG							
LEWOLEBANG							
BITUNG							
SIAN							
TAHUNA							
BASTIN							
SIDANGOLO							
CALELA							
PITU							
BIAK							
SERUI							
NABIRE							
Mark	◎	◎	○	□	○	○	○

legend ◎-marked items : to be provided and taken to Japan with us;
○-marked items : expected to be provided to us;
△-marked items : to be described by DGLT officials;
□-marked items : to be checked if they are available or not,only

Table 2-3

NAME OF PORT	QUESTIONNAIRE CHECK LIST ((9) NATURAL CONDITIONS IN EACH PORT)										
	Location Maps	Topographic Maps	Sounding Maps	Aerial Photos	Metereorogical Conditions			Marine Phenomenon Conditions			
					Wind Data	Record of Typhoons	Rain Fall	Wave Data	Tide Data	Current Data	Littoral Drift Surveys
PALEMBANG											
KAYA ARAN											
BANGKA											
BELITUNG											
LARANTUKA											
KUPANG											
BAJOE											
KOLAKA											
WAINURU											
WAIPIRIT											
WAIWERANG											
LEWOLEBANG											
BITUNG											
SIAN											
TAHUNA											
BASTIN											
SIDANGOLO											
CALELA											
PITU											
BIAK											
SERUI											
NABIRE											
Mark	◎	◎	◎	◎	◎	○	○	◎	◎	◎	□

legend ◎-marked items : to be provided and taken to Japan with us;
○-marked items : expected to be provided to us;
△-marked items : to be described by DGLT officials;
□-marked items : to be checked if they are available or not,only

Table-3

NAME OF ROUTE	QUESTIONNAIRE CHECK LIST											
	(1) Statistics on the Route (Cargo and Passesger)						(2) Vessels on the Route		(3) Ferry operation and management			
	Number and ton of vehicle		Passenger		Container Cargo		List	Information (Owner.Type.Size.etc)	Frequency	Distance	Tariff Table	
	Ferry	Others	Ferry	Others	Ferry	Others					Cargo	Passenger
PALEMBANG-KAYA ARAN												
BANGKA-BELITUNG												
LARANTUKA-KUPANG												
BAJOE-KOLAKA												
WAINURU-WAIPIRIT												
LARANTUKA-WAIWERANG -LEWOLEBANG												
BITUNG-SIAN-TAHUNA												
BASTIN-SIDANGOLO												
CALELA-PITU												
BIAK-SERUI-NABIRE												
Mark	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

legend ◎-marked items : to be provided and taken to Japan with us;
○-marked items : expected to be provided to us;
△-marked items : to be described by DGLT officials;
□-marked items : to be checked if they are available or not, only

1. Purpose of the Team

The team has been dispatched by the Japanese government with authorization to the followings within the framework of the Development Study on the Nationwide Ferry Service Routes in the Republic of Indonesia.

1) To discuss with Indonesian officials concerned identifying the background of the request and the purposes of the Indonesian Governement to execute the Study.

2) To reach an agreement for the execusion of the Study as the Scope of Work (S/W) to be signed beteween the Leader of the Team and the Indonesian representative.

3) To take a note of the above discussions in the Minutes of Meeting on the supplimentary agreements and informations to be conveyed to the Japanese government.

4) To collect necessary data and information for the preparation of the Study.

2. Scope of Work (Item Nos. correspond with those in S/W)

I. INTRODUCTION

JICA and DGLT are the decision making bodies for the matters arising in the course of the Study.

II. OBJECTIVES OF THE STUDY

The Study will be mainly phased into "Master Plan" and "Feasibility Study on the Short Term Development Plan."

III. SCOPE OF THE STUDY

1. Analysis of Existing Data and Information

Tha data and information are colleced and analized at the national level to justify the selection of the Master Plan routes.

2. Field Reconnaissance

Field Reconnaissance on the Master Plan routes.

3. Setting Up of Socio-economic Framework

The framework is established with socio-economic figures up to the year 2010 as a basis of demand forecast for the formulation of Master Plan.

4. Demand Forecast

Origin-Destination survey is conducted at the ports and in the surrounding area of the Master Plan routes, not in the national neither regional level.

5. Formulation of Master Plan

Master Plan will deal with about 10 ferry routes which are to be identified, at least as candidate routes, in the Minutes.

The master plan of each ferry port is formulated.

6. Feasibility Study on the Short Term Development Plan

The routes to be dealt with by the Feasibility Study are to be finalized as a result of the Master Plan study and they should be screened from the viewpoints of surrounding economy, definit accessibility for the inhabitants, balance of area coverage in the Study, etc.

With consideration of the appropriate schedule of the Study and its following implementation, the Feasibility Study covers at most 4 routes and/or at most 8 ferry terminals.

The F/S candidate routes proposed by Indonesian side will be noted in the Minutes.

IV. STUDY SCHEDULE

The Study will be completed in about 19 months, subject to the fiscal procedures by the Japanese government.

V. REPORTS

1. Inception Report contains the study approach and procedures in detail of the full scale study.

2.&4. Progress Reports contain only the results, mainly raw data and fingings of the work in Indonesia.

3. Interim Report contains the Master Plan.

5. Drafte Final Report contains all the output of the Study by the full scale study team.

6. Final Report includes the comments raised by the Indonesian side.

VI. UNDERTAKINGS OF THE GOVERNMENT OF THE REPUBLIC OF INDONESIA

The Team would like to confirm the supports to the full scale study team in detail.

VII. UNDERTAKINGS OF JICA

VIII. CONSULTATION

JICA will send its staff at the times of important reporting such as Inception, Interim and Draft Final Report. JICA Indonesia Office takes the role of liaison for any matters for consultation.

附属資料4. S／W

SCOPE OF WORK

FOR

THE DEVELOPMENT STUDY

ON

THE NATIONWIDE FERRY SERVICE ROUTES

IN

THE REPUBLIC OF INDONESIA

AGREED UPON BETWEEN
DIRECTORATE GENERAL OF LAND TRANSPORT AND INLAND WATERWAYS
MINISTRY OF COMMUNICATIONS
AND
JAPAN INTERNATIONAL COOPERATION AGENCY

March 13th, 1991
Jakarta, INDONESIA

SOEJONO
Director General of Land
Transport and Inland Waterways

Yasumasa SUZUKI
Leader of Preliminary Study
Team dispatched by JICA

I. INTRODUCTION

In response to the request of the Government of the Republic of Indonesia, the Government of Japan has decided to conduct the Development Study on the Nationwide Ferry Service Routes in the Republic of Indonesia (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 the technical cooperation programs of the Government of Japan, will undertake the Study, in close cooperation with the authorities concerned of the Government of the Repbulic of Indonesia.

Directorate General of Land Transport and Inland Waterways, Ministry of Communications (hereinafter referred to as "DGLT") shall act as counterpart agency to the Japanese study team and also act as coordinating body with other relevant organizations for the smooth implementation of the Study, on behalf of the Government of the Republic of Indonesia.

The present document sets forth the Scope of Work for the Study.

II. OBJECTIVES OF THE STUDY

The objectives of the Study are:

1. To conduct a master plan study on the nationwide ferry service routes;

2. To conduct a feasibility study on the Short Term Development Plan of selected ferry routes.

III. SCOPE OF THE STUDY

1. Analysis of the Existing Data and Information

   Collection and analysis of all the relevant data and information related to the Study on socio-economic features, natural conditions, engineering data, present ferry service system and the public and private sector development plans.

2. Field Survey

   Field survey at ferry ports, terminals, access roads and other related facilities

3. Setting Up of Socio-economic Framework
   (1) Analysis of the national and regional socio-economic features
   (2) Setting up of the socio-economic framework in the year 2010

4. Demand Forecast
   (1) Analysis of the existing Origin-Destination data
   (2) Forecast of the ferry traffic demand by cargo and passenger up to the year 2010

5. Formulation of Master Plan
   (1) Preparation of the basic concept of the ferry network
   (2) Preparation of the basic ferry operation plan
   (3) Preparation of ferry terminal development plans
   (4) Prioritization of the ferry routes for the Short Term Development Plan

6. Feasibility Study on the Short Term Development Plan
   (1) Engineering survey on the natural conditions by sounding, boring, current estimation, wave estimation, etc. at each selected ferry terminal area, if necessary
   (2) Preparation of the ferry operation plan on each route
   (3) Layout plan, preliminary design and cost estimation for the ferry terminals and related facilities
   (4) Implementation program at each port
   (5) Economic and financial analysis at each port
   (6) Recommendations on the ferry terminal management system

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 the Republic of Indonesia.

1. Inception Report

   Forty (40) copies will be submitted at the commencement of the Study.

2. Progress Report

   Thirty (30) copies will be submitted within five (5) months after the commencemnt of the Study.

3. Interim Report

Forty (40) copies will be submitted within seven (7) months after the commencemnt of the Study.

4. Progress Report (II)

Thirty (30) copies will be submitted within ten (10) months after the commencemnt of the Study.

5. Draft Final Report

Sixty (60) copies will be submitted within thirteen (13) months after the commencemnt of the Study.

The written comments on the Draft Final Report from the Government of the Republic of Indonesia will be delivered to JICA within one (1) month after submission of the report.

6. Final Report

Seventy (70) copies within two (2) months after the receipt of the written comments on the Draft Final Report from the Government of the Republic of Indonesia.

VI. UNDERTAKINGS OF THE GOVERNMENT OF THE REPUBLIC OF INDONESIA

1. To facilitate the smooth conduct of the Study, the Government of the Republic of Indonesia shall take the following necessary measures:

(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 Republic of Indonesia 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, fees and any other charges on equipment, machinery and other materials brought into the Republic of Indonesia for the conduct of the Study;

(4) to exempt the members of the Japanese study team from income tax and other charges of any kind imposed on or in connection with any emoluments or allowances 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 Republic of Indonesia from Japan in connection with the implementation of the Study;

(6) to secure permission for entry into private properties or restricted areas in connection with the implementation of the Study, according to prevailing regulations of the Government of the Republic of Indonesia;

(7) to make arrangements for the Japanese study team to use the data, maps, and materials for analysis in Japan subject to the approval of the Government of the Republic of Indonesia;

(8) to arrange medical services as needed. Its expenses will be chargeable on the members of the Japanese study team.

2. The Government of the Republic of Indonesia 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. DGLT shall provide the Japanese study team with the following 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 with necessary office equipment in Jakarta and at the sites;

(4) credentials or identification cards;

(5) available vehicles with drivers.

VII. UNDERTAKINGS 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 the Republic of Indonesia;

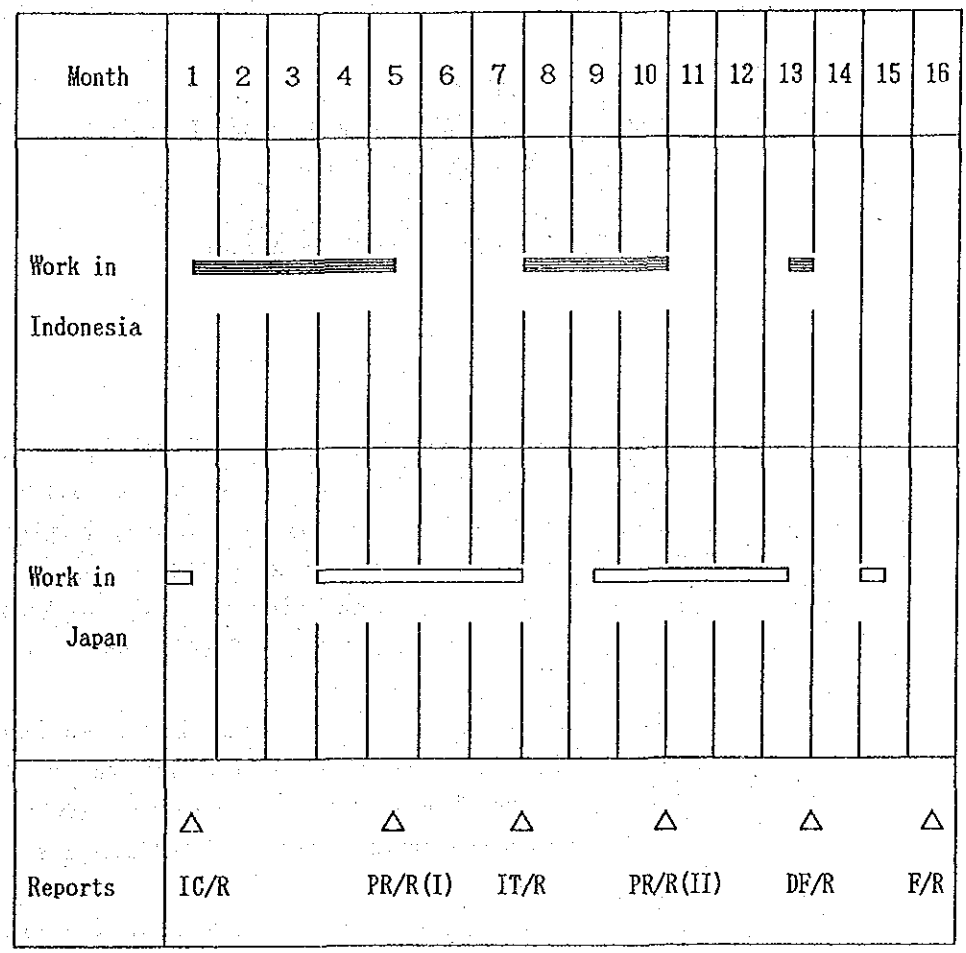
2. to pursue technology transfer to the Indonesian conterpart personnel in the course of the Study.

VIII. CONSULTATION

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

TENTATIVE SCHEDULE

The Developement Study on the Nationwide Ferry Service Routes



IC/R : Inception Report

PR/R : Progress Report

IT/R : Interim Report

DF/R : Draft Final Report

F/R : Final Report

附属資料5. ミニッツ

MINUTES OF MEETING
ON
THE SCOPE OF WORK FOR THE STUDY
ON
THE NATIONWIDE FERRY SERVICE ROUTES
IN
THE REPUBLIC OF INDONESIA

BETWEEN
DIRECTORATE GENERAL OF LAND TRANSPORT AND INLAND WATERWAYS
MINISTRY OF COMMUNICATIONS
AND
JAPAN INTERNATIONAL COOPERATION AGENCY

The Japan Internatnal Cooperation Agency (JICA) Preliminary Study Team (the Team) for the Development Study on the Nationwide Ferry Service Routes in the Republic of Indonesia, headed by Mr. Yasumasa SUZUKI, visited Indonesia from March 4th to 14th, 1991, with the purpose of working out and concluding the Scope of Work on the Development Study of the Nationwide Ferry Service Routes in the Republic of Indonesia (the Study).

During their stay in Indonesia the Team had a series of discussions with the officials of Directorate General of Land Transport and Inland Waterways, Ministry of Communications (DGLT) and other relevant authorities as shown in the attached attendants list.

The main remarks and points raised in the discussions are summarized as below.

1. The Scope of Work was agreed by the Team and Indonesian side as attached.

2. The routes proposed for the Formulation of Master Plan as mentioned in III. 5. of the Scope of Work are as follows:

(1) Ambon - Seram
(2) Biak - Serui - Nabire
(3) Larantuka - Kalabahi
(4) Bambaea (South east Sulawesi) - Sikeli (Kabaena Island)
(5) Balo (Kabaena Island) - Nawasangka (Muna Island)

(6) Kendari - Langgara
(7) Morotai - Halmahera
(8) Bajoe - Kolaka
(9) Palenbang - Bangka - Belitung

The Team requested the Indonesian side to check and confirm the access by air to those sites of the proposed routes from Jakarta.

The Team also requested that the Indonesian counterpart personnel from Jakarta Head Office or local officies would accompany the full scale study team to the sites on the field survey.

3. The Team explained that the routes to be dealt with for the Feasibility Study as mentioned in III. 6. of the Scope of Work were to be finalized as a result of the Master Plan and they should be screened from the viewpoint of surrounding economy, definite accessibility for the inhabitants, balance of area coverage, etc..

The Team also explained with consideration of the appropriate schedule of the Study and its implementation, the Feasibility Study should cover at most 4 routes and/or at most 8 ferry terminals.

4. The Indonesian side requested, and the Team accepted, to make "Executive Summary" of the Final Report.

5. The Indonesian side confirmed the following supports to the full scale study team.

(1) DGLT would formulate a steering committee consisting of DGLT and the officials from Ministry of Communications including Directorate General of Sea Communications, BAPPENAS, BINA MARGA (Ministry of Public Works), Perum ASDP (Ferry Corporation), etc.

(2) DGLT would extend the supports mentioned in the Undertakings of the Indonesian side subject to the laws and regulations in force in the Republic of Indonesia.

March 13th, 1991
Jakarta, INDONESIA

SOEJONO	Yasumasa SUZUKI
Director General of Land	Leader of Preliminary Study
Transport and Inland Waterways	Team dispatched by JICA

LIST OF ATTENDANTS

1. Directorate General of Land Transport and Inland Waterways (DGLT)

   SOEJONO, Director General
   SOEKRISNO RAMMELAN, Head of Insfrastructure Development System
   SUBARKAH, Dit. of Infrastructure Development
   ANTON SIMBOLON, Dit. of Infrastructure Development
   HARIONO, Dit. of Infrastructure Development
   WAYAN SIRYA, Dit. of Safety and Mean Land Transport
   WAN MUHAMMAD NUR, Dit.of Infrastructure Development
   HOTMA SIMANJUNTAK, Dit. of Traffic and Transport
   NUGROHO BASUKI, Dit. of Traffic and Transport
   ABDUL FATAH, Dit. of Infrastructure Development
   MULYADI HADIKUSUMO, Planning Div.
   HARDI SUKARLIANTO, Dit. of Infrastructure Development
   SYAMSU ISMED, Dit. of Traffic and Transport
   H. FUJISAKI, JICA EXPERT, DGLT.

2. Planning Bureau of Ministry of Communication
   DJOKO SASONO

3. Directorate General of Sea Communications

   MUNARSYAH
   SUGIYONO
   ABISOFINO

4. JICA Preliminary Study Team

   YASUMASA SUZUKI, Leader
   MASARU SUZUKI, Member
   HIROYUKI AHNISHI, Member
   HIROSHI YOKOTA, Member
   SHUJI SEKIGUCHI, Member
   ATSUSHI MATSUMOTO, Member

附属資料6　ローカル・コンサルタント・リスト

上記F／S時の自然条件調査において活用され得ると考えられる現地ローカル・コンサルタントについてDGLTの推薦した業者は次のとおりである。

	（会社名称）	（所在地）	（主業務）
1)	LAPI-ITB	Bandung	設計
2)	PT. NUSA Consultant	Jakarta	設計／調査
3)	BIRO FATEKS	Sulabaya	設計／調査
4)	PT. PEDICINAL	Sulabaya	調査
5)	PT. DIPATI UKUR	Bandung	設計
6)	PT. TAKA POLA indah	Jakarta	調査
7)	PT. LANGKOYANG MANOHONG	Jakarta	調査
8)	PT. MEGAH GANENDRA	Jakarta	調査

附属資料７　収集資料リスト

No.	名　　称	備　　考
1	ANGKUTAN LAUT TAHUN(1986,'87,'88) (OD表)、貨物25品目、大ゾーン50	ＤＧＳＣ
2	Sea Communication Development Program(Summary)	〃
3	BIAK, ANBON 港の概要 (英文)	栗田専門家
4	The fifth five-years development plan of communication Book Ⅰ(英文)	ＤＧＬＴ(ジャカルタ)(3.1989)
5	インドネシアのフェリー輸送('90.10.12)	中野　勉
6	Present situation of Ferry Trans-portation in Republic of Indonesia	ＤＧＬＴ　12.12.1990(資料集)
7	STUDI ASAL-TUJUAN TRANSPORTASI NASIONAL,1982(インドネシア語、英語)、1982 都市間道路　O-D調査	ＤＧＬＴ
8	Technical Proposal for the Technical assistance Consultancy Services for national origin and destination Survey on road Transportation in Indonesia,1989 1990/91 道路交通　O−D survey プロポーザル	ＤＧＬＴ(P.C.I.)
9	Overall schedule, Field survey schedule and brief report of activities on national OD survey on Arterial Roads,1990	DGLT(P.C.I.)
10	PETA TERMINAL PELABUHAN PENYEBERANGAN DI INDNESIA(図、表)(インドネシアにおける、フェリー・ターミナルの図表)	ＤＧＬＴ
11	〃　(ルート図、表)	ＤＧＬＴ
12	KANTOR WILAYAH PROPINSI MALUK アンボン周辺マルク諸島のフェリー航路の概要	AMBON, MOC
13	統計局による資料目次(インドネシア語)	〃　〃
14	フェリー港の平面図、就航フェリーの諸元(インドネシア語)	〃　〃
15	PEMBANGUNAN SECTOR PERHUBUNGAN DI PROPINSI MALUK(22/10,'90)	〃　〃
16	タリフ・テーブル(GALALA港)(インドネシア語)	アンボン　フェリー公社
17	〃　〃　(WAIPIRIT港)(　〃　)	〃　〃
18	MATERI RARAT DINAS (MALUKU諸島のフェリー実績 1990.)	〃　〃
19	SOASIO P. TIDORE に於ける土質調査(APRIL 1985 INTERIM REPORT)	AMBON　民間コンサル
20	PEMBANGUNAN JEMBATAN BETON WATDEK DITUAL MALUKU TENGGARA.(Final)(土質調査例)	〃　〃
21	SURVEY HYDROGRAFI PELABUHAN TOBELO HARMAHERA,11.1985 Geotechnical Investigation for the new Tobelo Wharf Halmahera Island Maluku(英文)(土質調査例)	〃　〃 〃　〃

No.	名　　称	備　　考
22	PENGOLAHAN DATA DENUMPANG UDARA LAPORAN AKHIR(空港・旅客　O・D)−1988	MOC
23	DATA PENUMPANG KAPAL LAUT LAPORAN AKHIR (海運旅客 OD)−1989	〃
24	PENGOLAHAN DATA BARANG FERRY, LAPORAN AKHIR(Ferry 貨物 OD)−1988	〃
25	PENGOLAHAN DATA, PENUMPANG FERRY LAPORAN AKHIR(Ferry 旅客 OD)−1988	〃
26	TARIF ANGKUTAN(海運タリフ)（イ語）	〃
27	INDONESIAN PORTS INFORMATION（英語）	DGSC
28	PEMBENTUKAN PERUSAHAAN UMUM (PERUM) ANGKUTAN SUNGAI, DANAU, DAN PENYEBERANGEN (1986 年「イ」国 Perum ASDP の法律本文　イ語、未訳)	DGLT
29	STRUKIUE ORGANISASI PERUM ASDP (Perum ASDP の機構図　イ語、英訳)	〃
30	REALISASI PENDAPATAN & BIAYA PERUM ASDP (Perum ASDP, 1981～1990 の収入と支出一覧　イ語、英訳)	〃
31	PERUM ANGKUTAN SUNGAI DANAU DAN PENYEBERANGEN DATA PRODUSKI TAHUN (Perum ASDP, 1978～1988 の輸送実績及び 1989～1994 の予想　イ語、英訳)	〃
32	DAFTAR KONSULTAN YANG DIPAKAI OLEH STDS (DGLT の Ferry 関連コンサルタントリスト　イ語、英訳)	〃
33	RUPIAH BUDGET CALCULATION OF NATIONAL ORIGIN-DESTINATION SURVEY AND STUDY ON ARTERIAL ROAD IN YEAR 1990 (PCI のコンサルタント費用一覧　英語)	〃
34	LAPI-ITB 277/LAPI/VI 1990 (ローカルコンサルタントの費用及び積算例　イ語、一部英訳)	〃
35	DGLT−DATA KAPAL, PELABUHAN, DAN VOLUME ANGKUTAN PENYEBERANGAN (DGLT 1990 年の所有船舶及び輸送実績　イ語、英訳)	〃
36	PENAMBAHAN 11/9 KAPAL BARU (1991, 1992 年の建造中(予定)船舶リスト　イ語、英訳)	〃
37	DAFTAR LINTASAN PERHUBUNGAN UDARA (東部イでの主要航空ルート一覧(16ルート)　イ語、英訳)	〃
38	KEPUTUSAN DIREKTUR JENDERAL PERHUBUNGAN LAUT(DGSC パイオニアルート一覧　イ語)	〃
39	TRAYEK KAPAL-KAPAL PENUMPANG PT. PELNI (DGSC 在来 passenger ルート及び船舶一覧　イ語、英訳)	〃
40	MENTERI PEKERJAAN UMUM (ロードネットワーク図面　イ語)	〃

No	名　　称	備　　考
41	DAFTAR INVENTARISASI / KONDISI DERMAGA PENYEBERANGAN & PERAIRAN DARATAN (DGLT Ferry Port の施設一覧　イ語、英訳)	DGLT
42	PETA FASILITAS PELABUHAN UMUM (DGSC 港湾の位置及び概要　イ語、英訳)	〃
43	PERENCANAAN UMUM DAN PRADESIGN, ANGKUTAN PENYEBERANGAN DI LINTASK, BIAK-YAPEN-NABIRE (1984 年ローカルコンサル実施の BIAK-SERUI-NABIREルートの報告書　但し表のみ　イ語、一部英訳)	〃
44	PETA JARINGAN OPERASI PERUM ASDP (Perum ASDP の船舶一覧)	〃
45	(DGLT の機構図)	〃
46	SHIP PARTICULAR(船舶の標準船型及び図面)	〃
47	海図(2枚)(海図 1：400万　全国図)	〃
48	BUKU PETUNDJUK PETA^2, CATALOGUS BIRO PETA^2 (地形図の index map. DGLT 発行　入手可能 area 及びスケール)	〃

JICA