

資料

資料 1 調査団員・氏名

(1) 基本設計調査

氏名	担当	所属
吉田□ 勝美	総括	国際協力事業団 無償資金協力部 業務第四課 課長
中尾 □ 直	技術参与	水産庁□ 資源管理部□ 国際課
若林□ 基治	計画管理	国際協力事業団□ 無償資金協力部□ 業務第四課
藤木□ 暢	業務主任/ 水産養殖施設計画	オーバースーズ・アグロフィッシャリーズ・ コンサルタンツ株式会社 (OAFIC)
古賀 省二郎	土木計画	日本工営株式会社
銭□ 錦麟	機材計画	オーバースーズ・アグロフィッシャリーズ・ コンサルタンツ株式会社 (OAFIC)
水谷□ 聖	自然条件調査	日本工営株式会社
立木 亨	施工・調達計画/積算	オーバースーズ・アグロフィッシャリーズ・ コンサルタンツ株式会社 (OAFIC)
府川 福	通訳 (越語)	オーバースーズ・アグロフィッシャリーズ・ コンサルタンツ株式会社 (OAFIC)

(2) 基本設計概要説明調査

氏名	担当	所属
金丸 守正	総括	国際協力事業団 ヴィエトナム事務所 所長
中尾 □ 直	技術参与	水産庁□ 資源管理部□ 国際課
神内 圭	計画管理	国際協力事業団□ 森林・自然環境協力部 水産環境協力課 副参事
藤木□ 暢	業務主任/ 水産養殖施設計画	オーバースーズ・アグロフィッシャリーズ・ コンサルタンツ株式会社 (OAFIC)
古賀 省二郎	土木計画	日本工営株式会社
銭□ 錦麟	機材計画	オーバースーズ・アグロフィッシャリーズ・ コンサルタンツ株式会社 (OAFIC)
布施 好子	通訳 (越語)	オーバースーズ・アグロフィッシャリーズ・ コンサルタンツ株式会社 (OAFIC)

資料 2 調査行程

(1) 基本設計調査

日順	月日	曜日	調査内容				
			官団員 (技術参与)	官団員 (計画管理)	官団員 (総括)	コンサル (C1,C2,C3,C5,C6)	コンサル (C4)
1	5/15	水	東京→香港→ハノイ JICA 事務所表敬			東京→香港→ハノイ JICA 事務所表敬	
2	5/16	木	大使館表敬、漁業省表敬			大使館表敬、漁業省表敬	
3	5/17	金	ハノイ→ニャチャン 第3養殖研究所・水産大学・ 海洋生物研究所表敬・ カンホア省人民委員会表敬			ハノイ→ニャチャン 第3養殖研究所・水産大学・ 海洋生物研究所表敬・ カンホア省人民委員会表敬	
4	5/18	土	サイト調査		東京→香港→ハノイ	サイト調査	
5	5/19	日	団内協議		ハノイ→ニャチャン	団内協議	
6	5/20	月	第3養殖研究所協議、ニャチャン→ハノイ				サイト調査
7	5/21	火	漁業省協議				ニャチャン→ハノイ
8	5/22	水	漁業省協議、ミニッツ署名				再委託調査準備
9	5/23	木	大使館、JICA 報告	大使館、JICA 報告 ハノイ→ホーチミン→プノンベン		大使館、JICA 報告	資料収集
10	5/24	金	ハノイ→香港→東京	JICA 協議、サイト調査 プノンベン→バンコク→東京		水産事情調査	資料収集
11	5/25	土		東京着		水産事情調査	ハノイ→ニャチャン

			C1,□ C3,C6	C5	C2	C4	
12	5/26	日	水産事情調査	資料整理		自然条件調査	
13	5/27	月	漁業省協議、統計庁訪問	漁業省協議、統計庁訪問	漁業省協議	自然条件調査	
14	5/28	火	第1養殖研究所調査	第1養殖研究所調査	第1養殖研究所	自然条件調査	
15	5/29	水	市場調査	建設事情調査	建設事情調査	自然条件調査	
16	5/30	木	カットバ養殖施設調査	カットバ養殖施設調査	カットバ施設調査	自然条件調査	
17	5/31	金	市場調査	調達事情調査	建設事情調査	自然条件調査	
18	6/1	土	ハノイ→ニャチャン 第3養殖研究所協議			自然条件調査	
19	6/2	日	団内協議			自然条件調査	
20	6/3	月	第3養殖研究所協議	調達事情調査	サイト状況調査	自然条件調査	
21	6/4	火	第3養殖研究所協議	調達事情調査	サイト状況調査	自然条件調査	
22	6/5	水	海洋研究所、水産大学調査	水産大学調査	サイト状況調査	自然条件調査	
23	6/6	木	第3養殖研究所協議	調達事情調査	サイト状況調査	自然条件調査	
24	6/7	金	第3養殖研究所協議	調達事情調査	サイト状況調査	自然条件調査	
25	6/8	土	養殖漁家意識調査	施工計画調査	環境配慮	自然条件調査	
26	6/9	日	ニャチャン→ホーチミン			環境配慮	自然条件調査
27	6/10	月	第2養殖研究所	調査調達事情調査	環境配慮	自然条件調査	
28	6/11	火	第2養殖研実験施設調査	第2養殖研実験施設調査	土木工法検討	自然条件調査	
29	6/12	水	水産事情調査	調達事情調査	土木工法検討	自然条件調査	
30	6/13	木	ホーチミン→ハノイ 漁業省協議		ニャチャン→ハノイ 漁業省協議	自然条件調査	
31	6/14	金	漁業省協議			自然条件調査	
32	6/15	土	団内協議			ニャチャン→ハノイ	
33	6/16	日	資料とりまとめ				
34	6/17	月	漁業省協議				
35	6/18	火	大使館、JICA 事務所報告、				
36	6/19	水	ハノイ→香港→東京				

C1:藤木：業務主任・水産養殖施設計画、C2:古賀：土木計画、C3:銭：機材計画、C4:水谷：自然条件調査、
C5:立木：施工・調達計画/積算、C6:府川：通訳

(2) 基本設計概要説明調査

日順	月日	曜日	調査内容			
			官団員 (技術参与)	官団員 (計画管理)	官団員 (総括)	コンサル (C1,C2,C3,C4)
1	9/2	月	東京→香港→ハノイ			東京→ハノイ
2	9/3	火	JICA 事務所、大使館表敬、投資計画省、漁業省表敬			
3	9/4	水	漁業省協議			
4	9/5	木	ミニッツ署名			
5	9/6	金	大使館報告 ハノイ→東京	ハノイ→ニャチャン 第3養殖研究所協議		大使館報告 ハノイ→東京
6	9/7	土	東京着	ニャチャン→ハノイ ハノイ→東京		東京着
7	9/8	日		東京着		

C1:藤木：業務主任・水産養殖施設計画、C2:古賀：土木計画、C3:銭：機材計画、C4 布施:通訳

資料3 関係者（面会者）リスト

計画投資省	
Ho□ Quang□ Minh	海外経済協力局副局長
漁業省	
Nguyen□ Viet□ Thang	副大臣
Ho□ Van□ Hoanh	国際協力局長
Pham□ Quang□ Toan	国際協力局専門員
Doan□ Manh□ Cuong	国際協力局専門員
Thai□ Thanh□ Duong	漁業情報センター センター長
Pham□ Tuyet□ Nhung	漁業情報センター 副センター長
Duong□ Long□ Tri	漁業情報センター 副センター長
第3 養殖研究所	
Nguyen□ Hung□ Dien	所長
Nguyen□ Thi□ Xuan□ Thu	副所長
Dao□ Van□ Tri	養殖研究課長
Le□ Duc□ Minh	主任研究員
第2 養殖研究所	
Nguyen□ Van□ Hao	所長
Nguyen□ Van□ Trong	水族環境部長
第2 養殖研究所ブンタオセンター	
Nguyen□ Trong□ Hien	ブンタオ養殖センター主任
Vo□ Ninh□ Son	ブンタオ養殖センター研究員
Nguyen□ Van□ dam	ブンタオ養殖センター研究員
第1 養殖研究所	
Pham□ Anh□ Tuan	副所長
第1 養殖研究所カットバセンター	
Le□ Xan	カットバー養殖センター所長
Tran□ Tuyet□ Nhung	カットバー養殖センター研究員
カンホア省人民委員会	
Tran□ Minh□ Duan	副委員長
カンホア省環境局	
Nguyen□ Van□ Huot	環境局長
Do□ Phi□ Phong	環境局副局長

カンホア省気象局	
Vo□ Anh□ kiet	気象局主任
ニャチャン水産大学	
Tran□ Thi□ Luyen	副学長
Lai□ Van□ Hung	副学部長
海洋研究所	
Nguyen□ Tac□ An	所長
Do□ Minh□ Thu	副所長
ICLARM	
Reiner Pit	養殖専門家
ACIAR	
David Man	養殖専門家
在ハノイ日本大使館	
宮川一等書記官	
青木勇司二等書記官	
菊森佳幹二等書記官	
在ハノイ JICA 事務所	
金丸守正	所長
戸川正人	次長
仲宗根邦宏	所員

資料4 当該国の社会経済状況

ヴィエトナム社会主義共和国 Socialist Republic of Viet Nam

一般指標				
政体	社会主義共和国	*1	首都	ハノイ (Hanoi) *2
元首	大統領 (国家主席) / チャン・ドク・ルオン (Tran Duc LUONG)	*1,3	主要都市名	ホーチミン、ハイフォン、ダナン *3
独立年月日	1945年9月2日	*3,4	労働力総計	40,408千人 (2000年) *6
主要民族/部族名	ヴァイナム人90%、中国系3%、少数民族	*1,3	義務教育年数	5年間 (年) *13
主要言語	ヴィエトナム語	*1,3	初等教育就学率	110.2% (1998年) *6
宗教	仏教80%、カトリック、カオダイ教他	*1,3	中等教育就学率	61.4% (1998年) *6
国連加盟年	1977年9月20日	*12	成人非識字率	6.7% (2000年) *13
世銀加盟年	1956年9月21日	*7	人口密度	241.24人/km2 (2000年) *6
IMF加盟年	1956年9月21日	*7	人口増加率	1.9% (1980-2000年) *6
国土面積	331.68千km2	*1,6	平均寿命	平均 67.80 男 65.50 女 70.20 *10
総人口	78,523千人 (2000年)	*6	5歳児未満死亡率	34/1000 (2000年) *6
			カロリー供給量	2,484.0 cal/日/人 (1997年) *10

経済指標				
通貨単位	ドン(Dong)	*3	貿易量	(年)
為替レート	1 US \$ = 15,395.00 (2002年12月)	*8	商品輸出	百万ドル *15
会計年度	Dec. 31	*6	商品輸入	百万ドル *15
国家予算	(1999年)		輸入カバー率	(月) (1999年) *14
歳入総額	67,600 Billions of Dong	*9	主要輸出品目	原油、繊維、水産物 *1
歳出総額	73,573 Billions of Dong	*9	主要輸入品目	機械、石油製品、衣料品材料 *1
総合収支	百万ドル (年)	*15	日本への輸出	2,616百万ドル (2001年) *16
ODA受取額	1,699.5百万ドル (2000年)	*18	日本からの輸入	1,785百万ドル (2001年) *16
国内総生産(GDP)	31,343.61百万ドル (2000年)	*6		
一人当たりのGNI	390.0ドル (2000年)	*6	総国際準備	15,898.8百万ドル (2000年) *6
分業別GDP	農業 24.3% (2000年) *6		対外債務残高	12,786.9百万ドル (2000年) *6
	鉱工業 36.6% (2000年) *6		対外債務返済率(DSR)	7.5% (2000年) *6
	サービス業 39.1% (2000年) *6		インフレ率 (消費者価格物価上昇率)	4.1% (1990-2000年) *6
産業別雇用	農業 男 % 女 % (1998-2000年) *6			
	鉱工業 % % (1998-2000年) *6		国家開発計画	10カ年経済社会発展戦略、第7次五カ年計画、包括的貧困削減成長戦略 *11
	サービス業 % % (1998-2000年) *6			
実質GDP成長率	7.9% (1990-2000年)	*6		

気象 (年~年平均)	観測地: ハノイ (北緯21度01分、東経105度52分)												*4,5
月	1	2	3	4	5	6	7	8	9	10	11	12	平均/計
降水量	18.0	26.0	48.0	81.0	194.0	236.0	302.0	323.0	262.0	12.03	47.0	20.0	1680.0 mm
平均気温	20.4	20.4	23.1	27.3	31.7	32.8	32.7	32.0	30.9	28.8	25.6	22.0	27.3 °C

- *1 各国概況 (外務省)
- *2 世界の国々一覽表 (外務省)
- *3 世界年鑑2000 (共同通信社)
- *4 最新世界各国要覽10訂版 (東京書籍)
- *5 理科年表2000 (国立天文台編)
- *6 World Development Indicators2002(WB)
- *7 BRD Membership List(WB)
- IMF Members' Financial Data by Country(IMF)
- *8 Universal Currency Converter

- *9 Government Finance Statistics Yearbook 2000 (IMF)
 - *10 Human Development Report2000,2001(UNDP)
 - *11 Country Profile(EIU),外務省資料等
 - *12 United Nations Member States
 - *13 Statistical Yearbook 1999(UNESCO)
 - *14 Global Development Finance2001(WB)
 - *15 International Financial Statistics Yearbook 2001(IMF)
 - *16 世界各国経済情報ファイル2002(世界経済情報サービス)
- 注: 商品輸入については複式簿記の計上方式を採用しているため
支払い額はマイナス表記になる

	ヴェトナム社会主義共和国
	Socialist Republic of Viet Nam

項目	年度	1995	1996	1997	1998	1999
技術協力		32.40	33.52	42.22	46.36	60.74
無償資金協力		89.08	80.35	72.97	81.86	46.41
有償資金協力		1,280.00	810.00	850.00	880.00	1,012.81
総額		1,401.48	923.87	965.19	1,008.22	1,119.96

項目	暦年	1995	1996	1997	1998	1999
技術協力		45.70	46.67	54.35	45.98	61.66
無償資金協力		98.66	46.37	79.08	55.46	84.87
有償資金協力		25.83	27.81	99.06	287.18	533.46
総額		170.19	120.86	232.48	388.61	679.98

	贈与 (1) (無償資金協力・ 技術協力)	有償資金協力 (2)	政府開発援助 (ODA) (1)+(2)=(3)	その他政府資金 及び民間資金(4)	経済協力総額 (3)+(4)
二国間援助 (主要供与国)	427.5	820.1	1,247.6	-500.5	747.1
1. Japan	133.0	790.7	923.7	-477.3	446.4
2. France	26.2	26.7	52.9	48.8	101.7
3. Denmark	40.7	0.3	41.0	0.0	41.0
4. Belgium	38.3	-0.3	38.0	-7.5	30.5
多国間援助 (主要援助機関)	47.3	388.6	435.9	45.0	480.9
1. AsDB			197.7	38.6	236.3
2. IDA			172.9	0.0	172.9
その他	6.3	9.7	16.0	-11.7	4.3
合計	481.1	1,218.4	1,699.5	-467.2	1,232.3

技術協力：計画投資省 (MPI)
無償：計画投資省 (MPI)
協力隊：計画投資省 (MPI)

*17 我が国の政府開発援助2000(国際協力推進協会)

*18 International Development Statistics (CD-ROM) 2002 OECD

*19 JICA資料

MINUTES OF DISCUSSIONS
ON
THE BASIC DESIGN STUDY
ON THE PROJECT FOR
CONSTRUCTION OF MARICULTURE RESEARCH
AND DEVELOPMENT CENTER IN NHA TRANG
IN
SOCIALIST REPUBLIC OF VIET NAM

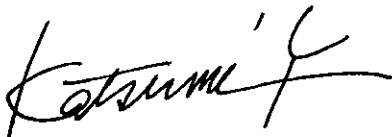
In response to a request from the Socialist Republic of Viet Nam (hereinafter referred to as " Viet Nam"), the Government of Japan decided to conduct a Basic Design Study on the Project for Construction of Mariculture Research Center in Nha Trang (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA sent to Viet Nam the Basic Design Study Team (hereinafter referred to as "the Team"), which is headed by Mr. Katsumi YOSHIDA, Director, Fourth Project Management Division, Grant Aid Management Department, Japan International Cooperation Agency , and is scheduled to stay in the country from 15 May to 19 June, 2002.

The Team held discussions with the officials concerned of the Government of Viet Nam and conducted a field survey at the study area.

In the course of discussions and field survey, both parties confirmed the main items described on the attached sheets. The Team will proceed to further works and prepare the Basic Design Study Report.

Hanoi, 22 May, 2002



Katsumi YOSHIDA

Leader

Basic Design Study Team

Japan International Cooperation Agency

NGUYEN Viet Thang

Vice Minister

Ministry of Fisheries

ATTACHMENT

1. Objective of the Project

The objective of the Project is to construct Mariculture Research and Development Center in Nha Trang in order to develop the technology for mariculture and to promote fishery activities in the middle coast of Viet Nam.

2. Project site

The site of the Project is located in Song Lo area, Phuoc Dong commune, Nha Trang city, as shown in Annex-1.

3. Responsible and Implementing Agency

3-1. The Responsible Agency is Ministry of Fisheries.

3-2. The Implementing Agency is Research Institute for Aquaculture No. 3.

4. Items requested by the Government of Viet Nam

After discussions with the Team, the items described in Annex-2 were officially requested by Vietnamese side. JICA will assess the appropriateness of the request with necessary adjustments after discussions between both sides and will recommend to the Government of Japan for approval.

5. Japan's Grant Aid Scheme

Vietnamese side understands the Japan's Grant Aid Scheme and the necessary measures to be taken by the Government of Viet Nam as explained by the Team and described in Annex-3.

6. Schedule of the Study

6-1. The consultants will proceed to further studies in Viet Nam until 19 June.

6-2. JICA will prepare the draft report in English and dispatch a mission in order to explain its contents around August, 2002.

6-3. In case that the contents of the report is accepted in principle by the Government of Viet Nam, JICA will complete the final report and send it to the Government of Viet Nam by November, 2002.

7. Other relevant issues

7-1. The Vietnamese side will secure the necessary budget and personnel for implementation of the Project and for operation/maintenance of the equipment and

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facilities.

7-2. Both sides agreed that following matters were required to be executed by Vietnamese side prior to the commencement of the building work on the Project site by Japanese side.

- i) to carry out land clearance and leveling,
- ii) to secure electricity supply to the site and telephone line,
- iii) to construct an access road,
- iv) to secure water supply to the site, and
- v) to construct fence around the Project site

7-3. The team pointed out some issues may be caused by the construction of the road across the Project site and consequent shifting of the Project site to hill side such as flashing at night, noise, accessibility to sea shore, slope stability and so on. Vietnamese side stated that construction of the above mentioned road across the Project site would be completed by the end of 2002, so it was difficult to change the route of the constructing road and asked Japanese side to understand that. Both sides agreed that Vietnamese side will take necessary measures as follows.

- i) to provide necessary protective facilities/measures against the above adverse effects from road traffic
- ii) to regulate the speed of cars
- iii) to secure the way to across the road immediately
- iv) to provide appropriate storm water drainage around the Project area

7-4. The requested items described in Annex-2 will be further examined and determined in the course of study by the Team with following criteria.

- i) Necessity and priority
- ii) Technical viability
- iii) Maintenance
- iv) Use frequency
- v) Financial viability
- vi) Conformity with the Project objectives

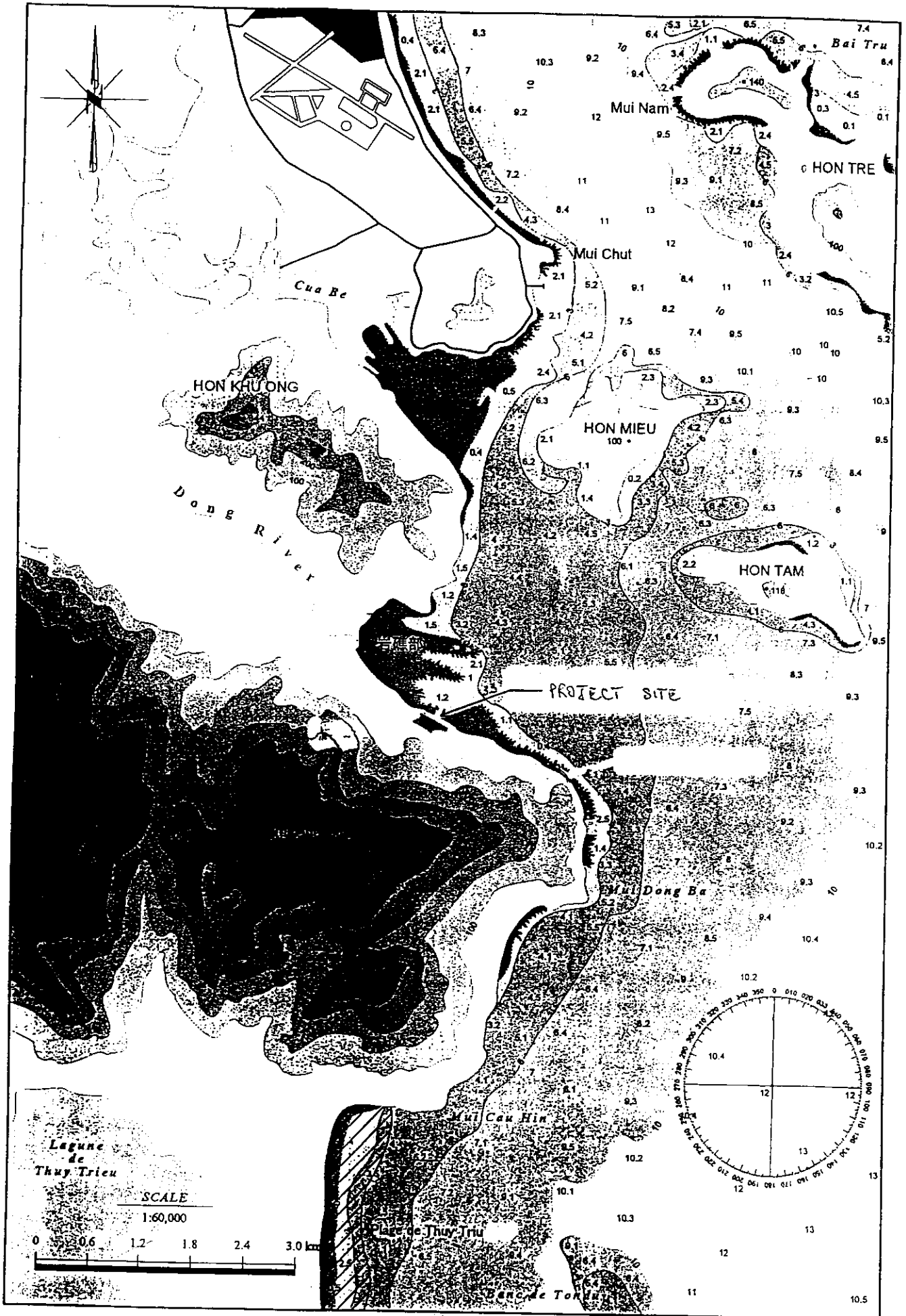
Vietnamese side emphasized that the Team would examine the requested components with due consideration of the role of new center as a modern mariculture research center of the nation and the region.

7-5. Vietnamese side understood that the collaboration of related organizations such as RIA No.1, RIA No.2, Institute of Oceanography, and University of Fisheries, would be necessary to enhance the effectiveness of the Project, and expressed that they would take necessary measures to coordinate among related organizations.

7-6. The Team emphasized that in order to effectively utilize the developed mariculture technique, certain financial and technical support of the government of Vietnam for

those mariculture activities was necessary and Vietnamese side fully understood those contents.

ANNEX I :



ANNEX.2

< Contents of the Request >

Contents of the Request	1. Facilities	
	(1) Buildings	
	Main Building	: two-story, 600 m ²
	Ground floor	: administration office; director's office; meeting room; library; toilets; others
	First floor	: chemical laboratory; biological laboratory; dark room; specimen room; others
	Spawning Building	: 60 ton tank x 4; 10 ton tank x 8
	Incubation and Seedling Building	: 600 m ² ; 5 tons x 40
	Feed Culture Building	: 750 m ² ; preparation room (temperature and lighting control)
	- Artemia culture FRP tank	(1 m ³ x 10)
	- ___ culture tank	(50 m ³ x 4)
	- Animal plankton culture tank	(10 m ³ x 10)
	- Chlorella culture tank	(50 m ³ x 4)
	Feed Building: mixed feed production testing	: 100 m ²
	Machine Room	: 50 m ²
	Power Generation Room	: 30 m ²
	Pump Room	: 30 m ²
	Dormitory	
	(2) Outdoor Culture Ponds	
	Adult Fish Rearing Pond	: 400 m ² x 4 (masonry construction)
	Intermediate Culture Pond	: 50 m ² x 20 (masonry construction)

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2. Systems

(1) Seawater Supply System

- Main Pump : 15 kW x 3
- Filtration System : 50 tons/hr
- Seawater Supply Tower : 50 tons; 10 m tall
- Seawater Tank : 1,200 tons
- Seawater Supply Channel : 200 m long x 1 m deep

(2) Freshwater Supply System (water intake from a source behind the site)

- Water Supply Method : gravity method

(3) Aeration System

- Blower : 7.5 kW x 2

(4) Emergency Power Generation Unit

- Capacity : 50 kVA, 15kVA

(5) Waste Water Treatment System

3. Equipment

(1) Laboratory Equipment

Equipment for-

Live food production, Broodstock maturation, Mariculture environment, Molecular biology, and standard mariculture research

(2) Incubation Equipment

Portable submersible pump, submersible heater, plankton net, fry collection net, pan light and others

(3) Net Pen

10 m x 10 m x 3 m - 10 sets

(4) Cold Storage Vehicle : 1

(5) Work Vessel : 1

(6) Office Equipment

Data analysis equipment, copier and others

(7) Educational Equipment

OHP, projector, VCR and others

(8) Workshop Equipment

ANNEX 3 : JAPAN'S GRANT AID SCHEME

1. Grant Aid Procedure

1) Japan's Grant Aid Program is executed through the following procedures.

Application (Request made by a recipient country)

Study (Basic Design Study conducted by JICA)

Appraisal & Approval (Appraisal by the Government of Japan and Approval by Cabinet)

Determination of Implementation (The Notes exchanged between the Governments of Japan and the recipient country)

2) Firstly, the application or request for a Grant Aid project submitted by a recipient country is examined by the Government of Japan (the Ministry of Foreign Affairs) to determine whether or not it is eligible for Grant Aid. If the request is deemed appropriate, the Government of Japan assigns JICA to conduct a study on the request. If necessary, JICA send a Preliminary Study Team to the recipient country to confirm the contents of the request.

Secondly, JICA conducts the study (Basic Design Study), using Japanese consulting firms.

Thirdly, the Government of Japan appraises the project to see whether or not it is suitable for Japan's Grant Aid Programme, based on the Basic Design Study report prepared by JICA, and the results are then submitted to the Cabinet for approval.

Fourthly, the project, once approved by the Cabinet, becomes official with the Exchange of Notes signed by the Governments of Japan and the recipient country.

Finally, for the implementation of the project, JICA assists the recipient country in such matters as preparing tenders, contracts and so on.

2. Basic Design Study

1) Contents of the Study

The aim of the Basic Design Study (hereinafter referred to as "the Study"), conducted by JICA on a requested project (hereinafter referred to as "the Project"), is to provide a basic

document necessary for the appraisal of the Project by the Government of Japan. The contents of the Study are as follows:

- a) confirmation of the background, objectives and benefits of the Project and also institutional capacity of agencies concerned of the recipient country necessary for the Project's implementation;
- b) evaluation of the appropriateness of the Project to be implemented under the Grant Aid Scheme from the technical, social and economic points of view;
- c) confirmation of items agreed on by both parties concerning the basic concept of the Project;
- d) preparation of a basic design of the Project; and
- e) estimation of costs of the Project.

The contents of the original request are not necessarily approved in their initial form as the contents of the Grant Aid project. The Basic Design of the Project is confirmed considering the guidelines of Japan's Grant Aid Scheme.

The Government of Japan requests the Government of the recipient country to take whatever measures are necessary to ensure its self-reliance in the implementation of the Project. Such measures must be guaranteed even through they may fall outside of the jurisdiction of the organization in the recipient country actually implementing the Project. Therefore, the implementation of the Project is confirmed by all relevant organizations of the recipient country through the Minutes of Discussions.

2) Selection of Consultants

For the smooth implementation of the Study, JICA uses a consulting firm selected through its own procedure (competitive proposal). The selected firm participates the Study and prepares a report based upon the terms of reference set by JICA.

At the beginning of implementation after the Exchange of Notes, for the services of the Detailed Design and Construction Supervision of the Project, JICA recommends the same consulting firm which participated in the Study to the recipient country, in order to maintain the technical consistency between the Basic Design and Detailed Design as well as to avoid any undue delay caused by the selection of a new consulting firm.

3. Japan's Grant Aid Scheme

1) What is Grant Aid?

The Grant Aid Program provides a recipient country with non-reimbursable funds to procure the facilities, equipment and services (engineering services and transportation of the products, etc.) for economic and social development of the country under principles in accordance with the relevant laws and regulations of Japan. Grant Aid is not supplied through the donation of materials as such.

2) Exchange of Notes (E/N)

Japan's Grant Aid is extended in accordance with the Notes exchanged by the two Governments concerned, in which the objectives of the project, period of execution, conditions and amount of the Grant Aid, etc., are confirmed.

3) "The period of the Grant" means the one fiscal year which the Cabinet approves the project for. Within the fiscal year, all procedure such as exchanging of the Notes, concluding contracts with consulting firms and contractors and final payment to them must be completed.

However, in case of delays in delivery, installation or construction due to unforeseen factors such as weather, the period of the Grant Aid can be further extended for a maximum of one fiscal year at most by mutual agreement between the two Governments.

4) Under the Grant, in principle, Japanese products and services including transport or those of the recipient country are to be purchased.

When the two Governments deem it necessary, the Grant Aid may be used for the purchase of the products or services of a third country.

However, the prime contractors, namely consulting, contracting and procurement firms, are limited to "Japanese nationals". (The term "Japanese nationals" means persons of Japanese nationality or Japanese corporations controlled by persons of Japanese nationality.)

5) Necessity of "Verification"

The Government of the recipient country or its designated authority will conclude contracts denominated in Japanese yen with Japanese nationals. Those contracts shall be verified by the Government of Japan. This "Verification" is deemed necessary to secure accountability of Japanese taxpayers.

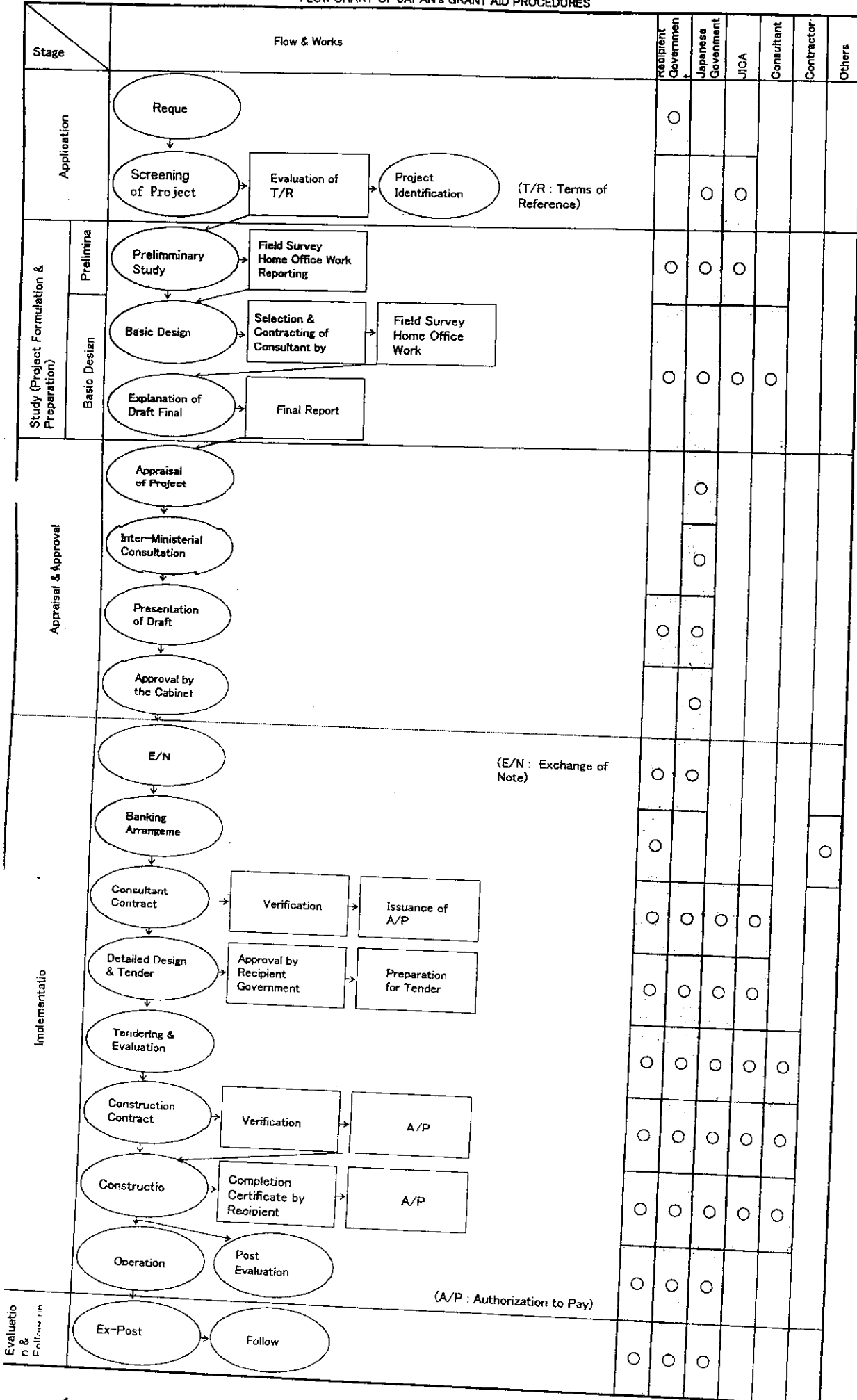
- 6) Undertakings required to the Government of the recipient country
- a) to secure a lot of land necessary for the construction of the Project and to clear the site;
 - b) to provide facilities for distribution of electricity, water supply and drainage and other incidental facilities outside the site;
 - c) to ensure prompt unloading and customs clearance at ports of disembarkation in the recipient country and internal transportation therein of the products purchased under the Grant Aid;
 - d) to exempt Japanese nationals from customs duties, internal taxes and fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contracts;
 - e) to accord Japanese nationals whose services may be required in connection with the supply of the products and services under the verified contracts such as facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work;
 - f) to ensure that the facilities constructed and products purchased under the Grant Aid be maintained and used properly and effectively for the Project; and
 - g) to bear all the expenses, other than those covered by the Grant Aid, necessary for the Project.
- 7) "Proper Use"
- The recipient country is required to maintain and use the facilities constructed and equipment purchased under the Grant Aid properly and effectively and to assign the necessary staff for operation and maintenance of them as well as to bear all the expenses other than those covered by the Grant Aid.
- 8) "Re-export"
- The products purchased under the Grant Aid shall not be re-exported from the recipient country.
- 9) Banking Arrangement (B/A)
- a) The Government of the recipient country or its designated authority should open an account in the name of the Government of the recipient country in an authorized foreign exchange bank in Japan (hereinafter referred to as "the Bank"). The Government of Japan will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by the Government of the recipient country or its designated authority under the verified contracts.

- b) The payments will be made when payment requests are presented by the Bank to the Government of Japan under an Authorization to Pay (A/P) issued by the Government of recipient country or its designated authority.

ANNEX-3: UNDERTAKINGS BY THE GOVERNMENT OF THE RECIPIENT COUNTRY

1. To secure a lot of land necessary for the Project;
2. To clear and level the site for the Project prior to the commencement of the construction;
3. To provide a proper access road to the Project site;
4. To provide facilities for distribution of electricity, water supply, telephone trunk line and drainage and other incidental facilities outside the site;
5. To undertake incidental outdoor works, such as gardening, fencing, exterior lighting, and other incidental facilities in and around the Project site, if necessary;
6. To ensure prompt unloading and customs clearance of the products purchased under the Japan's Grant Aid at ports of disembarkation in the Recipient Country;
7. To exempt Japanese nationals from customs duties, internal taxes and fiscal levies which may be imposed in THE RECIPIENT COUNTRY with respect to the supply of the products and services under the verified contracts;
8. To accord Japanese nationals whose services may be required in connection with the supply of the products and services under the verified contracts such facilities as may be necessary for their entry into THE RECIPIENT COUNTRY and stay therein for the performance of their work;
9. To bear commissions, namely advising commissions of an Authorization to Pay (A/P) and payment commissions, to the Japanese foreign exchange bank for the banking services based upon the Banking Arrangement (B/A);
10. To provide necessary permissions, licenses, and other authorization for implementing the Project, if necessary;
11. To ensure that the facilities constructed and equipment purchased under the Japan's Grant Aid be maintained and used properly and effectively for the Project; and
12. To bear all the expenses, other than those covered by the Japan's Grant Aid, necessary for the Project.

FLOW CHART OF JAPAN'S GRANT AID PROCEDURES



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Major Undertakings to be taken by Each Government

Annex- 3

No.	Items	To be covered by Grant Aid	To be covered by Recipient Side
1	To secure land		●
2	To clear level and reclaim the site when needed		●
3	To construct gates and fences in and around the site		●
4	To construct the parking lot	●	
5	To construct roads		
	1) Within the site	●	
	2) Outside the site		●
6	To construct the building	●	
7	To provide facilities for the distribution of electricity , water supply , drainage and other incidental facilities		
	1) Electricity		
	a) The distributing line to the site		●
	b) The drop wiring and internal wiring within the site	●	
	c) The main circuit breaker and transformer	●	
	2) Water Supply		
	a) The city water distribution main to the site		●
	b) The supply system within the site (receiving and elevated tanks)	●	
	3) Drainage		
	a) The city drainage main(for storm sewer and others to the site)		●
	b) The drainage system (for toilet sewer, ordinary waste, storm drainage and others) within the site	●	
	4) Gas Supply		
	a) The city gas main to the site		●
	b) The gas supply system within the site	●	
	5) Telephone System		
	a)The telephone trunk line to the main distribution frame/panel (MDF) of the building		●
	b) The MDF and the extension after the frame/panel	●	
	6) Furniture and Equipment		
	a) General furniture		●
	b) Project equipment	●	
8	To bear the following commissions to the Japanese foreign exchange banking services based upon the B/A		
	1) Advising commission of A/P		●
	2) Payment commission		●
9	To ensure unloading and customs clearance at port of disembarkation in recipient country		
	1) Marine (Air) transportation of the products from Japan to the recipient country	●	
	2) Tax exemption and custom clearance of the products at the port of disembarkation		●
	3) Internal transportation from the port of disembarkation to the project site		●
10	To accord Japanese nationals whose services may be required in connection with the supply of the products and the services under the verified contract such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of the their work		●
11	To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contracts		●
12	To maintain and use properly and effectively the facilities contracted and equipment provided under the Grant		●
13	To bear all the expenses, other than those to be borne by the Grant, necessary for construction of the facilities as well as for the transportation and installation of the equipment		●

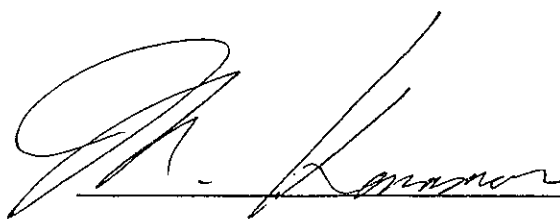
MINUTES OF DISCUSSIONS
ON
THE BASIC DESIGN STUDY
ON THE PROJECT FOR
CONSTRUCTION OF MARICULTURE RESEARCH
AND DEVELOPMENT CENTER IN NHA TRANG
IN
SOCIALIST REPUBLIC OF VIET NAM
(EXPLANATION ON DRAFT REPORT)

In May 2002, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the Basic Design Study Team on the Project for Construction of Mariculture Research and Development Center in Nha Trang (hereinafter referred to as "the Project"), and through discussion, field survey, and technical examination of the results in Japan, JICA prepared draft report of the Study.


In order to explain and to consult the Socialist Republic of Viet Nam (hereinafter referred to as " Viet Nam") on the components of the draft report, JICA sent to Viet Nam the Draft Report Explanation Team (hereinafter referred to as "the Team"), which is headed by Mr. Morimasa KANAMARU, Resident Representative of JICA Viet Nam Office, from 3 September to 5 September, 2002.

As a result of discussions, both parties confirmed the main items described on the attached sheets.

Hanoi, 5 September, 2002



Mr. Morimasa Kanamaru
Leader
Draft Explanation Study Team
Japan International Cooperation Agency



Mr. Nguyen Viet Thang
Vice Minister
Ministry of Fisheries

ATTACHMENT

1. Components of the Draft Report

The Government of Viet Nam agreed and accepted in principle the components of the draft report explained by the Team.

2. Japan's Grant Aid Scheme

Vietnamese side understands the Japan's Grant Aid Scheme and the necessary measures to be taken by the Government of Viet Nam as explained by the Team and described in Annex-3 of the Minutes of Discussions signed by both parties 22 May, 2002.

3. Schedule of the Study

JICA will complete the final report in accordance with the confirmed item and send it to the Government of Viet Nam by November, 2002.

4. Other Relevant Issues

4-1. The Vietnamese side will secure the official appraisal and approval required for the implementation of the Project by the Government of Viet Nam by September, 2002.

4-2. In view of the fact that the Project needs advanced technology and a lot of cost for implementation of the Project and for operation/maintenance of the facilities and equipment, Vietnamese side shall secure the necessary budget and personnel for the Project.

4-3. Vietnamese side shall implement the following works.

---before the commencement of the construction

1) to carry out land clearing for the Project site (hereinafter referred to as "the Site"), temporary office and stock yard,

2) to construct an access road,

3) to secure water supply to the Site,

---by at least 4 month before the end of the building work

4) to install power distributing line to the Site,

---by at least 3 month before the end of the building work,

5) to construct fence around the Project Site,

---before the end of the building work

6) to install telephone line to the Site

4-4. Vietnamese side shall take necessary counter measures against the road traffic in front of the site as follows.

- 1) to provide necessary protective facilities/measures against the adverse affects from road traffic,
- 2) to regulate the speed of cars,
- 3) to secure the way to across the road immediately, and
- 4) to provide appropriate storm water drainage around the Project area

4-5. Vietnamese side will promote the collaboration of related organizations such as RIA No.1, RIA No.2, Institute for Marine Products, Institute of Oceanography, and University of Fisheries to enhance the effectiveness of the Project.

4-6. For the purpose of sound development of mariculture, the Team emphasized that government of Vietnam should continue financial and technical support for effective utilization of the mariculture technique established under activities in Mariculture Research and Development Center in Nha Trang.
Vietnamese side understood it.

4-7. Vietnamese side understood the importance of the sea water supply system in this Project and promised that they will carry out proper maintenance for it. For the purpose, both sides agreed that technical advice for better operation of the sea water supply system needed to be included in the Project as the consultancy services.

資料 6 事前評価表

事業事前評価表

1.協力対象事業名
ベトナム国 ニャチャン海洋養殖研究・開発センター建設計画
2.我が国が援助することの必要性・妥当性
<p>(1) 我が国が当該国に対し援助することの必要性・妥当性</p> <p>我が国は、ベトナムの安定はインドシナの平和と安定にとり極めて重要であること、人口約 7,600 万人を有し、また、一人当たり GNP (350 米ドル、98 年) は低く、援助需要が高いこと、91 年 10 月のカンボディア和平合意を受け、我が国が円借款を再開したことを契機に、両国関係は将来を見据えた新たな発展段階に入り、政治面、経済面のみならず文化面等でも緊密化しつつあること、86 年より「ドイモイ (刷新)」路線の下市場経済化を推進するとともに、我が国を含む域内外諸国との関係改善・拡大を進めてきていること等を踏まえ、援助を実施している。</p> <p>(2) 当該プロジェクトを実施することの必要性・妥当性</p> <p>ベトナムにおいて水産業は、国民へのタンパク質の供給、雇用確保、外貨獲得の 3 つの面で重要な一次産業であり、漁業形態では、沿岸漁業が中心であり、小規模な零細漁民が全体の 9 割を占めている。</p> <p>これら零細漁民による沿岸漁業資源への過剰な集中により、沿岸水産資源の枯渇が深刻化してきており、漁業省では持続可能な水産資源開発を行うために、沿岸漁業の沖合漁業への転換、養殖漁業の強化といった漁業開発に取り組んでいる。</p> <p>漁業省は、養殖漁業が抱える問題として、エビ養殖への偏重をあげており、今後の養殖業の発展のためには、海産魚養殖の振興、海洋養殖技術の研究・開発が必要であることから、養殖セクターの国家開発計画として、「水産養殖開発国家プログラム」を策定している。養殖漁業に必要な海産魚種苗生産技術を確立して種苗の量産化をはかるために、北部、中部、南部をそれぞれ管轄する 3 つの国立養殖研究所が設立され研究・開発の役割を担うことを期待されており、第 1 養殖研究所 (北部地域担当) および第 2 養殖研究所 (南部地域担当) では既存施設の再編・拡張などを行い研究体制を整えつつある。一方、中部地域を担当する第 3 養殖研究所では、既存の施設が手狭となっており、海産魚の養殖研究に必要な魚類飼育施設、研究実験室等の拡張・整備ができない状況にある。</p>
3. 協力対象事業の目的 (プロジェクト目標)
<p>本プロジェクトはベトナム中部に位置するカンホア省ニャチャン市ソンロー地区において、海産魚の養殖研究技術開発のための施設及び機材の整備を通じ、海産魚の大量種苗生産に関する研究・開発により、大量種苗生産を安定的に行える技術を確立することを目的とする。</p>

4.事業の内容

(1) 対象地域

ヴェトナム国中部地域

(2) アウトプット

ヴェトナム国カンホア省ニャチャン市ソンロー地区に海産魚養殖の研究・開発センターが整備される。

(3) インプット

[日本側]

養殖開発研究センターの建設（海水取水・排水設備、貯水タンク、給水高架タンク、エアレーションシステム、親魚養成タンク、稚仔魚孵化育成タンク、クロレラ繁殖タンク、研究管理棟、機械棟、非常用発電機等）

養殖研究実験機材の調達（生物餌料培養関係機材、孵化育成機材、栄養研究機材、魚病環境研究機材、クレーン付きトラック、小型作業船等）

教育・ワークショップ用機材の調達（OHP、プロジェクター、ビデオデッキ等）

[ヴェトナム側]

建設用地の確保と整地、電気の供給、淡水の供給等

(4) 総事業費

概算事業費 8.91 億円

（日本側 8.73 億円、ヴェトナム側 0.18 億円）

(5) スケジュール

詳細設計期間を含め約 16 ヶ月の工期を予定

(6) 実施体制

実施機関：漁業省第 3 養殖研究所

5.プロジェクトの成果											
<p>(1) プロジェクトの裨益対象の範囲及び規模 裨益対象：ヴェトナム国中部地域の零細漁民、養殖漁家 裨益人口：約 35.5 万人</p>											
<p>(2) 事業の目的（プロジェクト目標）達成を示す成果指標 本センターの整備により、現在第 3 養殖研究所では行われていない海産魚（本プロジェクト実施開始段階では、ハタとミルクフィッシュを研究対象魚種とする）の大量種苗生産に関する研究が実施され、大量種苗生産に係わる技術が開発・確立される。</p> <p>指標：本センターで生産される種苗数（尾/雌親魚/年）</p> <table border="1"> <thead> <tr> <th>対象魚種</th> <th>2002 年（実施前）</th> <th>2010 年（実施 6 年後）</th> </tr> </thead> <tbody> <tr> <td>ハタ</td> <td>0</td> <td>8,300</td> </tr> <tr> <td>ミルクフィッシュ</td> <td>0</td> <td>1,400</td> </tr> </tbody> </table>			対象魚種	2002 年（実施前）	2010 年（実施 6 年後）	ハタ	0	8,300	ミルクフィッシュ	0	1,400
対象魚種	2002 年（実施前）	2010 年（実施 6 年後）									
ハタ	0	8,300									
ミルクフィッシュ	0	1,400									
6.外部要因リスク											
<p>(1) 疾病や底質など養殖環境の悪化等により、養殖業が衰退しない。 (2) 漁業省からの予算措置が適切におこなわれ、本センターの運営維持に必要な資金調達に支障がでない。 (3) 本センターの周辺環境に、研究活動に支障となる変化が起こらない。</p>											
7.今後の評価計画											
<p>(1) 事後評価に用いる成果指標 本センターで生産された種苗数</p> <p>(2) 評価のタイミング 施設供用開始後、2010 年以降を目処に全体の事後評価</p>											

資料 7 参考資料/入手資料リスト

1) 入手資料リスト

- 1 VIETNAM 2001/2002、(国家開発計画)
- 2 NATIONAL PRIGRAMME FOR AQUACULTURE DEVELOPMENT 1999-2000
(MINISTRY OF FISHERIES)
- 3 VIETNAM-DENMARK ANNUAL SECTOR REVIEW AGREEMENT FISHERIES
SECTOR、SECOND JOINT ANNUAL REVIEW OF THE FISHERIES SECTOR
PROGRAMME SUPPORT SEPTEMBER 2000-FEBRUARY 2002
- 4 SUSTAINABLE AQUACULTURE FOR POVERTY ALLEVIATION, STRATEGY
AND IMPLEMENTATION、(MINISTRY OF FISHERIES)
- 5 FISHERIES SCIENTIFIC AND TECHNICAL ABSTRACTS 2001
- 6 VIETNAM'S FISHERIES、(MINISTRY OF FISHERIES)
- 7 THE EASTERN SEA REOURCES AND ENVIRONMENT 2001
- 8 STATISTICAL DATA OF VIETNAM FISHERY 1975-2000、統計出版局
- 9 STATISTICAL YEAR BOOK、統計出版局
- 10 POTENTIALS AND PROSPECTIVE INVESTMENTS 1998
- 11 BUILDING CODE OF VIETNAM, (I, II, III) 建設省
- 12 HAND BOOK FOR INVESTOR AND CONTRACTOR, 統計出版局
- 13 LIST OF VIETNAM CRITERIAS (大気、排水基準)、科学技術環境省
- 14 ニャチャン地域の気象・海象データ
- 15 カンホア省道路整備計画地図 (ソンロー地区)、カンホア省人民委員会、2001 年
- 16 ソンロー地区地籍図 (サイト)、カンホア省人民委員会、2001 年 6 月
- 17 Low on Environmental Protection, MOSTE
- 18 Government Degree No.175/CP on providing Guidance for the Implementation of the
Law on Environmental Protection , MOSTE
- 19 Regulations for the Protection of Environment of Khanh Hoa Province, DOSTE, Khanh
Hoa Province
- 20 Air photograph NhaTrang City Scale1/25,000, 1995
- 21 Sea Chart of Khanh Hoa Province, Scale 1/500,000
- 22 Map of Khanh Hoa Province, Scale 1/250,000

- 23 Drawing of Road Construction Plan, 2001, local Consultant Company, Khanh Hoa Province
- 24 Statistical Year Book Dec, 2001, Khanh Hoa Statistical Office, Khanh Hoa Province
- 25 Collection of Maritime Research Works, Institute of Oceanography

資料 8 自然条件調査地点位置図

