

# 資 料

資料1 調査団員・氏名

資料2 調査行程

資料3 関係者（面会者）リスト

資料4 エリトリア国の社会経済状況（国別基本情報抜粋）

資料5 討議議事録（M/D）

5.1 第1次現地調査（平成15年3月7日～3月25日）

5.2 第2次現地調査（平成16年1月15日～2月28日）

5.3 第3次現地調査（平成16年4月23日～5月2日、5月20日～6月3日）

（基本設計概要説明）

資料6 基本設計概要表

資料7 参考資料/入手資料リスト

資料8 その他の資料・情報

8.1 JICA 環境社会配慮ガイドライン（スクリーニング様式）

8.2 技術メモ（平成16年2月20日）

8.3 測量・地質調査

8.4 目視観察調査

## 資料 1 調査団員・氏名

### 1. 1 第1次現地調査（平成15年3月7日～3月25日）

担 当	所 属	氏 名
団長	国際協力機構 無償資金協力部業務第三課	杉山 茂
計画管理	国際協力機構 ナイロビ事務所所員	見宮 美早
業務主任／道路計画	(株) 建設企画コンサルタント	井上 尚三
橋梁設計	日本工営株式会社	多田 一正
自然条件調査（水文） /橋梁健全性調査	日本工営株式会社	渡辺 真一郎

### 1. 2 第2次現地調査（平成16年1月15日～2月28日）

担 当	所 属	氏 名
団長	国際協力機構 無償資金協力部業務第三課	倉科 芳朗
計画管理	国際協力機構 ナイロビ事務所	見宮 美早
業務主任／道路計画	(株) 建設企画コンサルタント	井上 尚三
橋梁設計	日本工営株式会社	多田 一正
自然条件調査（地形・地質）	(株) 建設企画コンサルタント	小石川 一晴
自然条件調査（水文） /橋梁健全性調査	日本工営株式会社	吉田 剛
施工計画／積算	(株) 建設企画コンサルタント	増井 徹美

### 1. 3 第3次現地調査（平成16年4月23日～5月2日、5月20日～6月3日）

担 当	所 属	氏 名
団長	国際協力機構 ナイロビ事務所所員	見宮 美早
業務主任／道路計画	(株) 建設企画コンサルタント	井上 尚三
橋梁設計	日本工営株式会社	多田 一正
環境社会配慮	(株) 建設企画コンサルタント	渡辺 幹治

資料 2 調査工程

2.1 第1次現地調査（平成15年3月7日～3月25日）

日数	月 日	移動	宿泊地	調査内容	備考
1	3月 7 金	東京ー	機中	東京発(18:45 JL707)～バンコック～ドバイ～	井上、多田団員ののみ
2	8 土	ーナイロビ	ナイロビ	ナイロビ着(12:15 EK719)	杉山団長、見宮団員ナイロビにて合流
3	9 日	ナイロビー アスマラ	アスマラ	ナイロビ発(9:30 BA8661)～アスマラ着(14:30)	
4	10 月		アスマラ	マクロ政策、公共事業省、総領事館、世界銀行表敬、地雷除去庁と協議	
5	11 火		マッサワ	現地調査	
6	12 水		アスマラ	現地調査、地雷除去庁および公共事業省と協議	
7	13 木		アスマラ	公共事業省および地雷除去庁と協議、国連ミッション表敬	
8	14 金		アスマラ	公共事業省と協議	
9	15 土		アスマラ	資料収集、ミニッツ署名	
10	16 日		アスマラ	団内打合せ	
11	17 月		アスマラ	公共事業省と協議・資料収集	
12	18 火		マッサワ	現地調査、公共事業省および地雷除去庁と協議	
13	19 水		アスマラ	現地調査	
14	20 木		アスマラ	公共事業省および環境局と協議／現地調査、	
15	21 金		アスマラ	公共事業省と協議／現地調査、	
16	22 土		アスマラ	現地調査／資料収集	
17	23 日	アスマラー ナイロビ	ナイロビ	アスマラ発(15:15 BA8662)～ナイロビ着(20:15)	
18	24 月	ナイロビー	機中	ナイロビ発(18:20 EK724)～ドバイ～香港～	
19	25 火	東京	ー	東京着(21:05 CX508)	

2.2 第2次現地調査（平成16年1月15日～2月28日）

日数	月 日	移動	宿泊地	調査内容	備考		
1	1月 15 木	東京ー	機中	東京発(18:45 JL707)～バンコック～ドバイ～	井上、多田・小石川団員のみ		
2	16 金	ーナイロビ	ナイロビ	ナイロビ着(12:15 EK723)			
3	17 土	ナイロビ	ナイロビ	団内打合せ			
4	18 日	ナイロビー アスマラ	アスマラ	ナイロビ発(9:30 BA8661)～アスマラ着(14:30)			
5	19 月		アスマラ	公共事業省、総領事館、地雷除去庁と協議			
6	20 火		アスマラ	公共事業省協議		倉科団長、見宮団員アスマラ着(23:20BA8663)	
7	21 水		アスマラ	国家開発省表敬、外務省/ロンコ社表敬			
8	22 木		アスマラ	、現地踏査 公共事業省表敬・協議/EDA協議、総領事館表敬			
9	23 金		アスマラ	ミニッツ署名			
10	24 土		アスマラ	GINGAE橋現地調査			
11	25 日		アスマラ	団内打合せ			倉科団長、離エリトリア(アスマラ00:45 LH653) 見宮団員、離エリトリア(アスマラ15:15 BA8662)
12	26 月		アスマラ	公共事業省と協議・資料収集			
13	27 火		アスマラ	現地調査、公共事業省および地雷除去庁と協議	吉田団員アスマラ着(23:20BA8663)		
14	28 水		アスマラ	現地調査・資料収集			
15	29 木		アスマラ /マッサワ	現地調査・資料収集、			
16	30 金		アスマラ	現地調査・資料収集			
17	31 土		アスマラ	現地調査/資料収集			
18	2月 1 日		アスマラ	団内打合せ		増井団員アスマラ着(14:30BA8661)	
19	2月		アスマラ	現地調査/資料収集			
20	3 火		アスマラ	現地調査/資料収集			
21	4 水		アスマラ	現地調査/資料収集			
22	5 木		アスマラ	現地調査/資料収集			
23	6 金		アスマラ	現地調査/資料収集			
24	7 土		アスマラ	現地調査/資料収集			

25	8 日		アスマラ	団内打合せ	
26	9 月		アスマラ	現地調査／資料収集	
27	10 火		アスマラ	現地調査／資料収集	
28	11 水		アスマラ	現地調査／資料収集	
29	12 木		アスマラ	現地調査／資料収集	
30	13 金		アスマラ	現地調査／資料収集	
31	14 土		アスマラ	現地調査／資料収集	
32	15 日		アスマラ	団内打合せ	井上団員、離エリトリア（アスマラ 01:00 BA8674）
33	16 月		アスマラ	現地調査／資料収集	
34	17 火		アスマラ	現地調査／資料収集	
35	18 水		アスマラ	現地調査／資料収集	
36	19 木		アスマラ	現地調査／資料収集	
37	20 金		アスマラ	現地調査／資料収集	
38	21 土		アスマラ	現地調査／資料収集	
39	22 日		アスマラ	団内打合せ	
40	23 月		アスマラ	現地調査／資料収集	
41	24 火		アスマラ	現地調査／資料収集	多田／吉田団員、離エリトリア（アスマラ 発 15:15 BA8662）
42	25 水		アスマラ	公共事業省協議／資料整理	
43	26 木		アスマラ	公共事業省協議／資料整理	
44	27 金	アスマラ～ナイロビー	機中	アスマラ発 (01:00 BA8674)～ナイロビ～	
45	28 土	ドバイ～関空～羽田	－	ドバイ～関空～羽田着 (18:40 JL344)	

2.3 第3次現地調査（平成16年4月23日～5月2日、5月20日～6月3日）

（社会環境配慮団員現地派遣）

日数	月 日	移動	宿泊地	調査内容	備考
1	4月 23 金	東京ー	機中	東京発(15:45 JL703)～バンコック～ドバイ～	渡辺団員のみ
2	24 土	ーナイロビ	ナイロビ	ナイロビ着(12:10 EK719)	
3	25 日	ナイロビー スマラ	アスマラ	ナイロビ発(9:30 BA8661)～アスマラ着(14:30)	
4	26 月		アスマラ	公共事業省協議	
5	27 火		アスマラ	現場視察	
6	28 水		アスマラ	現場視察	
7	29 木		アスマラ	公共事業省協議	
8	30 金		機中	アスマラ発(03:15 BA8674)～ナイロビ～	
9	5月 1 土		機中	～ドバイ～バンコック～	
10	2 日			成田(06:45 JL704)	

（基本設計概要説明）

日数	月 日	移動	宿泊地	調査内容	備考
1	5月 20 木	東京ー	機中	東京発(11:00 JL717)～バンコック～ドバイ～	井上、多田団員のみ
2	21 金	ーナイロビ	ナイロビ	ナイロビ着(12:10 EK723)	
3	22 土		ナイロビ	団内打合せ	
4	23 日	ナイロビー アスマラ	アスマラ	ナイロビ発(9:30 BA8661)～アスマラ着(14:30)	見宮団長、井上、多田団員
5	24 月		アスマラ	現場視察、団内打合せ	
6	25 火		アスマラ	公共事業省協議、国家開発省表敬	
7	26 水		アスマラ	公共事業省協議、国家開発省協議	
8	27 木		アスマラ	ミニッツ署名、総領事館表敬	
9	28 金		アスマラ	現場調査	
10	29 土		アスマラ	資料整理	
11	30 日		アスマラ	団内打合せ	見宮団長、離エリトリア(アスマラ発 15:15 BA8662)
12	31 月		アスマラ	公共事業省と協議・資料収集	
13	6 1 火		アスマラ	公共事業省協議	
14	2 水	アスマラー ナイロビー	機中	アスマラ発(02:30 BA8663)～ナイロビ～	
15	3 木	ドバイー関 空ー羽田	ー	ドバイ～関空～羽田着(19:45 JL1316)	

### 資料 3 関係者（面会者）リスト

#### 3.1 第1次現地調査（平成15年3月7日～3月25日）

##### マクロ政策・国際経済協力室 (International Economic Cooperation Macro Policy/Economic Coordination ,Office of President)

Dr. Woldai Futur	Economic Advisor to the Government of Eritrea	エリトリア国経済顧問
Mr. Solomon Tecele	Expert	専門員

##### 公共事業省(Ministry of Publics Works)

Mr. Abraha Asfana	Miister	大臣
Mr. Kidane Berhane	Director General, Infrastructure Department	インフラ局局长
Mr. Petros Tseggay	Hydrologist, Infrastructure Department	インフラ局、 水工技師
Mr. Michael Asmelash	Highway Engineer Infrastructure Department	インフラ局、 道路技師
Mr. Tullio Marrama	Consulting Engineer, Infrastructure Department	インフラ局 技術顧問

##### 地雷除去庁 (Eritrean Demining Authority)

Mr. Tesfai Isaak	General Director(Brigadier General)	長官
Mr. Habtom Seghid	Deputy General Director	副長官
Mr. Fitsum Tesfal	Deminer, Millitary Engineering(Major)	国防省派遣 地雷除去者

##### マッサワ港(Massawa Port)

Mr. Araia Tsegai	General Director	長官
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##### 世界銀行 (World Bank)

Mr. Emanuel Y Abio	Resident Representative	世銀代表
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##### 国連エチオピア・エリトリア・ミッション (United Nations Mission for Ethiopia-Eritrea)

Mr. Gehrhard Bechtold	MACC	地雷除去アクション
Mr. Justin Brady	UNDP-LIS	UNDP 職員

##### 土地・水資源・環境省 (Ministry of land, Water & Environment)

Mr. Fessehaie Tedla	Director of Environmental Management Department of Environment	環境局 環境管理部長
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##### 在エリトリア名誉総領事館

Mr. Michael Beyene	Honorary Consulate General of Japan	名誉総領事
在ケニヤ日本大使館 間島 重道	Secand Secretary	二等書記官
<u>JICA ケニヤ事務所</u> 松浦 信一	Deputy Resident Representative	次長

3.2 第2次現地調査（平成16年1月15日～2月28日）

国家開発省 (Ministry of National Development)

Dr. Woldai Futur	Minister	大臣
Mr. Solomon Tecele	Expert	専門員

公共事業省 (Ministry of Publics Works)

Mr. Abraha Asfana	Minister	大臣
Mr. Kidane Berhane	Director General, Infrastructure Department	インフラ局局长
Mr. Petros Tseggay	Hydrologist, Infrastructure Department	インフラ局、 水工技師
Mr. Tesfayohannes Okubay	Civil Engineer, Infrastructure Department	インフラ局、 土木技師

地雷除去庁 (Eritrean Demining Authority)

Mr. Tesfai Isaak	General Director (Brigadier General)	長官
Mr. Habtom Seghid	Deputy General Director	副長官
Mr. Fitsum Tesfal	Deminer, Military Engineering (Major)	国防省派遣 地雷除去者

Ronco 社

Mr. Will Haynes	Chief of Party	チーム代表
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在エリトリア名誉総領事館

Mr. Michael Beyene	Honorary Consulate General of Japan	名誉総領事
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在ケニア日本大使館

間島 重道	Secand Secretary	二等書記官
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JICA ケニア事務所

大塚 正明	Resident Representative	所長
仁田 知樹	Deputy Resident Representative	次長

JICA エリトリア連絡事務所

Mr. G. Michael Stephanos	Liaison Officer	連絡員
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3.3 第3次現地調査（平成16年4月23日～5月2日、5月20日～6月3日）

国家開発省 (Ministry of National Development)

Dr. Woldai Futur	Minister	大臣
Mr. Solomon Tecele	Expert	専門員

公共事業省 (Ministry of Publics Works)

Mr. Abraha Asfana	Minister	大臣
Mr. Kidane Berhane	Director General, Department	Infrastructure インフラ局局长
Mr. Fekadu Ghebremedhin	Director of Department	Infrastructure インフラ局部長
Mr. Petros Tseggay	Hydrologist, Department	Infrastructure インフラ局、 水工技師

在エリトリア名誉総領事館

Mr. Michael Beyene	Honorary Consulate General of Japan	名誉総領事
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USAID

Mr. Mehretead Araia	Administrative Specialist	庶務
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在ケニヤ日本大使館

花谷 公使	Deputy Chief of Mission	公使
諏訪 修	Secand Secretary	二等書記官

JICA ケニヤ事務所

大塚 正明	Resident Representative	所長
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JICA 派遣専門家

渡部 はなこ	JICA Expert	JICA 専門家
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JICA エリトリア連絡事務所

Mr. G. Michael Stephanos	Liaison Officer	連絡員
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エリトリア
Eritrea

一般指標	
政体	一党制(臨時政府) *1
元首	大統領/イサイアス・アフエウェルキ (ISSAIAS Afewerki) *1,3
独立年月日	1993年5月24日 *3,4
主要民族/部族名	ティグレ族、アフアール族等9部族 *1,3
主要言語	アラビア語、ティグレ語 *1,3
宗教	イスラム教50%、キリスト教コプト派50% *1,3
国連加盟年	1993年5月28日 *12
世銀加盟年	1994年7月6日 *7
IMF加盟年	1994年7月6日 *7
国土面積	101.00 千km2 *1,6
総人口	4,097 千人 (2000年) *6
首都	アスマラ (Asmara) *2
主要都市名	アッサブ、マッサワ *3
労働力総計	2,053 千人 (2000年) *6
義務教育年数	7年間 (年) *13
初等教育就学率	53.2% (1998年) *6
中等教育就学率	23.8% (1998年) *6
成人非識字率	44.3% (2000年) *6
人口密度	40.56 人/km2 (2000年) *6
人口増加率	2.7% (1980-2000年) *6
平均寿命	平均 52.00 男 50.60 女 53.30 *10
5歳児未満死亡率	103/1000 (2000年) *6
カロリー供給量	1,665.1 cal/日/人 (2000年) *17

経済指標	
通貨単位	ナクファ (Nakfa) *3
為替レート	1 US \$ = 9.50 (2002年12月) *8
会計年度	Dec. 31 *6
国家予算	(年) *9
歳入総額	*9
歳出総額	*9
総合収支	百万ドル (年) *15
ODA受取額	176.0 百万ドル (2000年) *19
国内総生産(GDP)	607.65 百万ドル (2000年) *6
一人当たりのGNI	170.0ドル (2000年) *6
分野別GDP	農業 17.1% (2000年) *6
	鉱工業 29.2% (2000年) *6
	サービス業 53.7% (2000年) *6
産業別雇用	農業 男 % 女 % (1998-2000年) *6
	鉱工業 % % (1998-2000年) *6
	サービス業 % % (1998-2000年) *6
実質GDP成長率	3.9% (1990-2000年) *6
貿易量	(年)
商品輸出	百万ドル *15
商品輸入	百万ドル *15
輸入カバー率	(月) (2000年) *14
主要輸出品目	鉱物資源、食糧・家畜、鉱工業品 *1
主要輸入品目	機械・輸送機器、鉱工業品、食糧・家畜 *1
日本への輸出	0 百万ドル (2001年) *16
日本からの輸入	5.7 百万ドル (2001年) *16
総国際準備	百万ドル (2000年) *6
対外債務残高	311.1 百万ドル (2000年) *6
対外債務返済率(DSR)	1.1% (2000年) *6
インフレ率 (消費者価格物価上昇率)	% (1990-2000年) *6
国家開発計画	国家政策概要報告(1997~2017) *11

気象	(年~年平均)												*4,5
月	1	2	3	4	5	6	7	8	9	10	11	12	平均/計
降水量													mm
平均気温													℃

\*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2002(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 2001 (IMF)

\*10 Human Development Report2002(UNDP)  
 \*11 Country Profile(EIU),外務省資料等  
 \*12 United Nations Member States  
 \*13 Statistical Yearbook 1999(UNESCO)  
 \*14 Global Development Finance2002(WB)  
 \*15 International Financial Statistics Yearbook 2002(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)  
 \*17 FAO Food Balance Sheets 2002年6月 FAO Homepage  
 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標記になる

	エリトリア
	Eritrea

項目	年度	1996	1997	1998	1999	2000
技術協力		0.89	2.75	0.96	0.14	0.20
無償資金協力		12.35	12.39		5.80	9.43
有償資金協力						
総額		13.24	15.14	0.96	5.94	9.63

項目	暦年	1996	1997	1998	1999	2000
技術協力		1.09	1.65	1.39	0.43	0.30
無償資金協力		0.92	10.75	14.16		0.10
有償資金協力						
総額		2.01	12.41	15.55	0.43	0.40

	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)	109.7	2.2	111.9	7.6	119.5
1. United States	39.5	0.0	39.5	0.0	39.5
2. Italy	16.4	2.2	18.6	0.2	18.8
3. Netherland	15.8	0.0	15.8	0.0	15.8
15. Japan	0.4	0.0	0.4	0.0	0.4
多国間援助 (主要援助機関)	16.4	38.5	54.9	0.0	54.9
1. IDA			31.6	0.0	31.6
2. EC			5.8	0.0	5.8
その他	0.5	8.7	9.2	0.0	9.2
合計	126.6	49.4	176.0	7.6	183.6

技術協力: マクロポリシー (I.C.M.P.E.C., Office of President)
無償 : マクロポリシー (I.C.M.P.E.C., Office of President)
協力隊 : 派遣実績なし

\*18 政府開発援助 (ODA) 国別データブック 2001 (国際協力推進協会)

\*19 International Development Statistics (CD-ROM) 2002 OECD

\*20 JICA資料

資料 5 討議議事録 (M/D)

- 5. 1 第1次現地調査 (平成15年3月7日～3月25日)
- 5. 2 第2次現地調査 (平成16年1月15日～2月28日)
- 5. 3 第3次現地調査 (平成16年4月23日～5月2日、5月20日～6月3日)  
(基本設計概要説明)

**Minutes of Discussions  
on the Basic Design Study  
on the Project for Rehabilitation of Bridges on the Asmara - Massawa Road  
in the State of Eritrea**

In response to a request from the Government of the State of Eritrea (hereinafter referred to as "Eritrea"), the Government of Japan decided to conduct a Basic Design Study on the Project for Rehabilitation of Bridges on the Asmara - Massawa Road (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA dispatched to Eritrea the Basic Design Study Team (hereinafter referred to as "the Team"), headed by Shigeru Sugiyama, an officer of the Third Project Management Division, the Grant Aid Management Department, JICA, and the Team is scheduled to stay in the country from March 9 to 30, 2003.

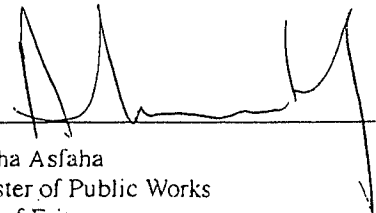
The Team held discussions with the officials concerned of the Government of Eritrea and conducted a field survey at the study area.

In the course of discussions and field survey, both sides confirmed the main items described in the attached sheets. The Team will proceed to further works and prepare the interim report.

Asmara, March 15, 2003



Shigeru Sugiyama  
Leader  
Basic Design Study Team  
Japan International Cooperation Agency



Abraha Asfaha  
Minister of Public Works  
State of Eritrea



Dr. Woldai Futur  
Economic Advisor to the Government of Eritrea  
International Cooperation Macro  
Policy/Economic Coordination Office of the  
President  
State of Eritrea



Kidane Berhane  
Director General  
Infrastructure Department  
Ministry of Public Works  
State of Eritrea

## ATTACHMENT

### 1. Objective of the Project

The objective of the Project is to secure a smooth traffic on the Asmara – Massawa Road by rehabilitation of the bridges.

### 2. Project Site

The Project sites are located on the Asmara – Massawa Road as shown in Annex-1.

### 3. Responsible and Implementing Organizations

The responsible ministry is the Ministry of Public Works (MOPW).

The implementing organization is the Infrastructure Department, MOPW.

The organization chart of the implementing organization is shown in Annex-2.

### 4. Components requested by the Government of Eritrea

As the result of discussions, requested bridges and their priorities by the Eritrean side were confirmed as below:

<u>Priority</u>	<u>Bridge Name</u>
1.	Einculu Bridge
2.	Gindae Bridge
3.	Gahtelay1 Bridge
4.	Dogali2 Bridge
5.	Dogali1 Bridge
6.	Gahtelay2 Bridge

JICA will assess the appropriateness of the request and will recommend to the Government of Japan for approval.

### 5. Japan's Grant Aid Scheme

5-1. The Eritrean side understands the Japan's Grant Aid scheme explained by the Team, as described in Annex-3.

5-2. The Eritrean side will take the necessary measures, as described in Annex-4, for smooth implementation of the Project, as a condition for the Japan's Grant Aid to be implemented.

### 6. Schedule of the Study

6-1. The consultants will proceed to further studies in Eritrea until March 30, 2003.

6-2. JICA will prepare the interim report in English and dispatch a mission to Eritrea in order to explain its contents and to continue the Basic Design Study at the sites around June, 2003.

6-3. JICA will prepare the draft report in English and dispatch a mission to Eritrea in order to explain its contents around October, 2003.

6-4. In case that the contents of the report is accepted in principle by the Government of Eritrea, JICA will complete the final report and send it to the Government of Eritrea by March, 2004.

#### 7. Other Relevant Issues

7-1. The Eritrean side shall assign necessary counterpart personnel for the Team during their studies in Eritrea.

7-2. The Eritrean side shall submit answers in English to the questionnaire, which the Team handed to the Eritrean side by March 16, 2003.

7-3. The Eritrean side shall confirm the requirement of the laws and/or regulations on Environmental Impact Assessment related to the Project, and shall take the necessary actions to obtain the approval in a timely manner.

7-4. In order to secure fairness, transparency and competitiveness of the tendering of the Project, the Eritrean side shall not disclose the technical details of the Basic Design Study to third parties.

7-5. The Eritrean side shall secure the land necessary for construction of the bridges before its commencement.

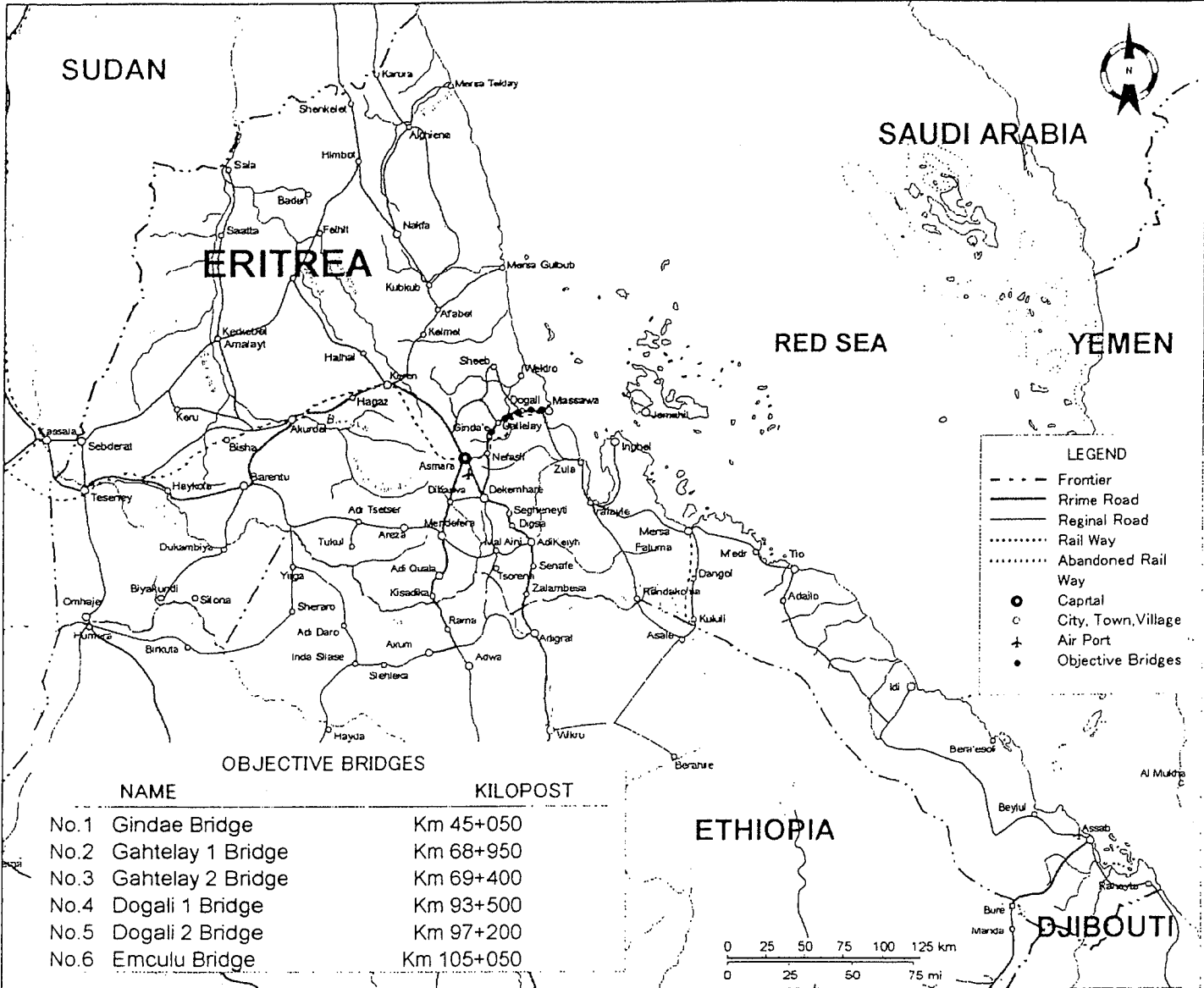
7-6. The Eritrean side shall provide necessary permissions, licenses and other authorizations for smooth implementation of the Project, as required.

7-7. The Eritrean side shall exempt the Japanese juridical and physical nationals engaged in the Project from customs duties, internal taxes including Value Added Tax, and other physical levies which may be imposed in Eritrea with respect to the products and services under the verified contracts.

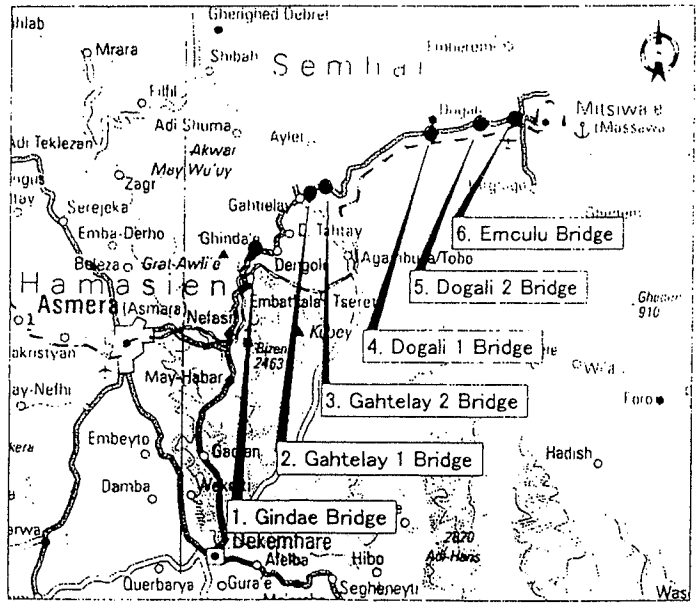
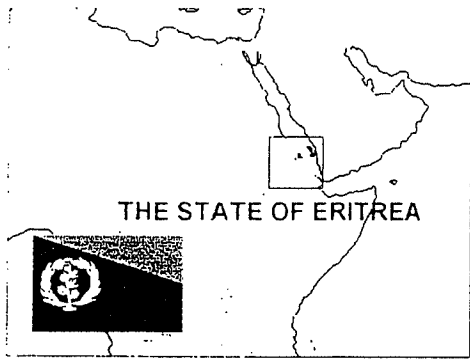
7-8. The Eritrean side shall ensure enough budget and personnel to properly maintain the bridges after the completion of the Project.

7-9. In order to ensure the safety of the personnel concerned of the Project, both sides agreed that any field activities at the ground and underground level should be limited to the areas that freeness from explosive materials such as land mines / UXOs were physically confirmed and guaranteed by the Eritrean side.



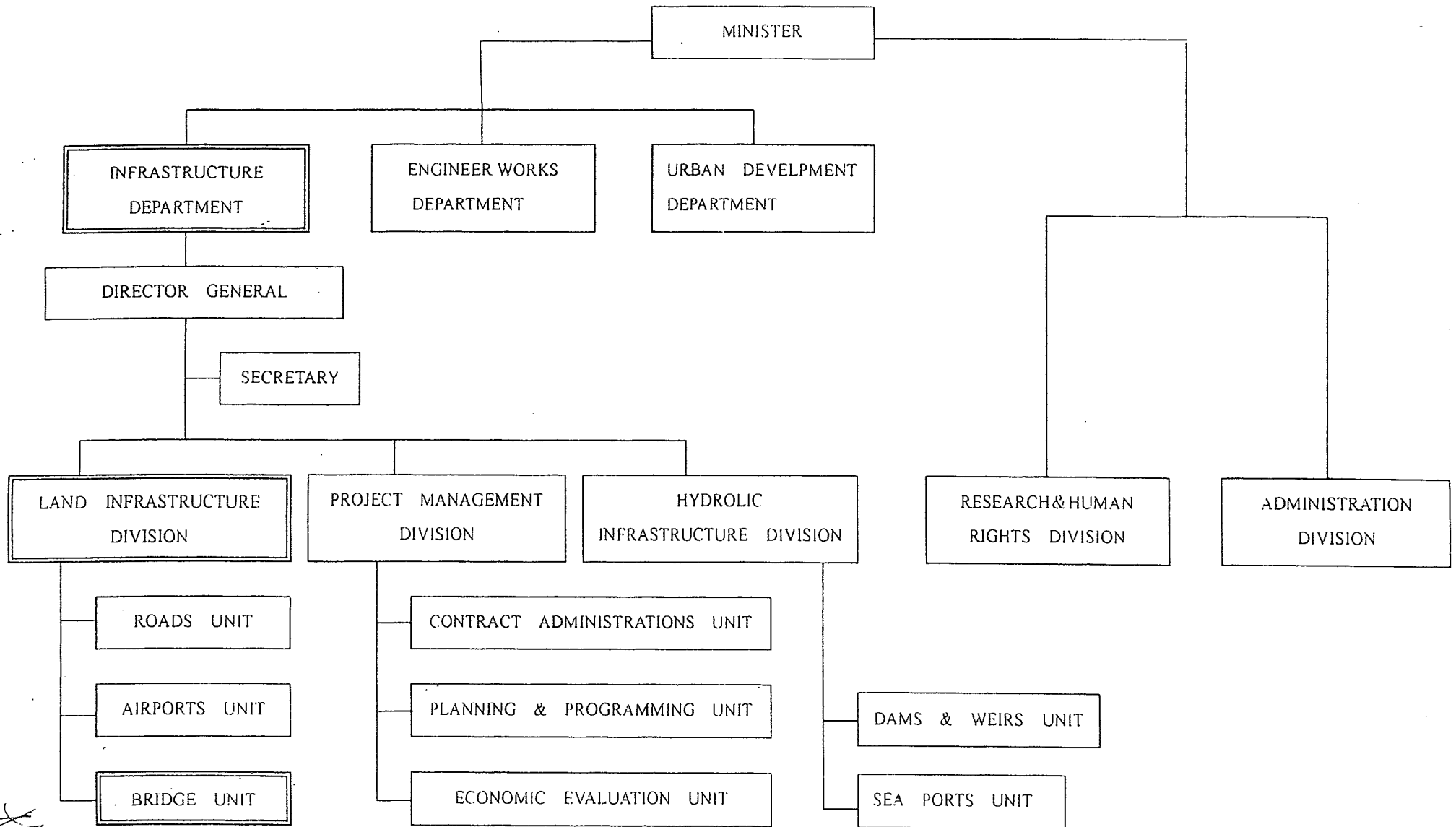


NAME	KILOPOST
No.1 Gindae Bridge	Km 45+050
No.2 Gahtelay 1 Bridge	Km 68+950
No.3 Gahtelay 2 Bridge	Km 69+400
No.4 Dogali 1 Bridge	Km 93+500
No.5 Dogali 2 Bridge	Km 97+200
No.6 Emculu Bridge	Km 105+050



**THE BASIC DESIGN STUDY ON  
THE PROJECT FOR REHABILITATION OF BRIDGES ON THE ASMARA-MASSAWA ROAD  
IN THE STATE OF ERITREA**





-5-

ORGANIZATION CHART OF MINISTRY OF PUBLIC WORKS

## JAPAN'S GRANT AID SCHEME

(Annex-3)

The Grant Aid scheme 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. The Grant Aid is not supplied through the donation of materials as such.

### 1. Grant Aid Procedures

Japan's Grant Aid Scheme 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	(The Notes exchanged between the Governments of Japan
Implementation	and the recipient country)

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 the Grant Aid. If the request is deemed appropriate, the Government of Japan assigns JICA (Japan International Cooperation Agency) to conduct a study on 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 Scheme, 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 (E/N) signed by the Governments of Japan and the recipient country.

Finally, for the smooth 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:

- Confirmation of the background, objectives, and benefits of the requested Project and also institutional capacity of agencies concerned of the recipient country necessary for the Project's implementation.

- Evaluation of the appropriateness of the Project to be implemented under the Grant Aid Scheme from a technical, social and economic point of view.
- Confirmation of items agreed upon by both parties concerning the basic concept of the Project.
- Preparation of a Basic Design of the Project.
- Estimation of cost 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 though 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 smooth implementation of the Study, JICA uses registered consulting firms. JICA selects firms based on proposals submitted by interested firms. The firms selected carry out a Basic Design Study and write a report, based upon terms of reference set by JICA.

The consulting firms used for the Study are recommended by JICA to the recipient country to also work on the Project's implementation after the Exchange of Notes, in order to maintain technical consistency.

### 3. Japan's Grant Aid Scheme

#### 1) 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.

2) "The period of the Grant Aid" means the one fiscal year which the Cabinet approves the project for. Within the fiscal year, all procedures 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 natural disaster, 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.

3) Under the Grant Aid, 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, constructing 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.)

4) 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 to Japanese taxpayers.

5) Undertakings required to the Government of the recipient country

In the implementation of the Grant Aid project, the recipient country is required to undertake such necessary measures as the following:

- a) To secure land necessary for the sites of the Project and to clear, level and reclaim the land prior to commencement of the construction,
- b) To provide facilities for the distribution of electricity, water supply and drainage and other incidental facilities in and around the sites,
- c) To secure buildings prior to the procurement in case the installation of the equipment,
- d) To ensure all the expenses and prompt execution for unloading, customs clearance at the port of disembarkation and internal transportation of the products purchased under the Grant Aid.
- e) To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which will be imposed in the recipient country with respect to the supply of the products and services under the verified Contracts,
- f) To accord Japanese nationals, whose services may be required in connection with 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.

6) "Proper Use"

The recipient country is required to operate and maintain the facilities constructed and equipment purchased under the Grant Aid properly and effectively and to assign staff necessary for this operation and maintenance as well as to bear all the expenses other than those covered by the Grant Aid.

7) "Re-export"

The products purchased under the Grant Aid should not be re-exported from the recipient country.

8) 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 a 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.

9) Authorization to Pay (A/P)

The Government of the recipient country should bear an advising commission of an Authorization to Pay and payment commissions to the Bank.

Handwritten initials, possibly 'AA', followed by a vertical line and another set of initials, possibly 'AA'.

## Major Undertakings to be taken by Each Government

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 roads		
	1) Within the site	●	
	2) Outside the site		●
5	To bear the following commissions to a bank of Japan for the banking services based upon the B/A		
	1) Advising commission of A/P		●
	2) Payment commission		●
6	To ensure prompt unloading and customs clearance at the port of disembarkation in recipient country		
	1) Marine(Air) transportation of the products from Japan to the recipient country	●	
	2) Tax exemption and customs clearance of the products at the port of disembarkation		●
	3) Internal transportation from the port of disembarkation to the project site	(●)	(●)
7	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 their work		●
8	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 contract		●
9	To maintain and use properly and effectively the facilities constructed and equipment provided under the Grant Aid		●
10	To bear all expenses, other than those to be borne by the Grant Aid, necessary for construction of the facilities		●

B/A : Banking Arrangement

A/P : Authorization to Pay

**Minutes of Discussions**  
**on the Basic Design Study**  
**on the Project for Rehabilitation of Bridges on the Asmara - Massawa Road**  
**in the State of Eritrea**  
**(The second field study)**

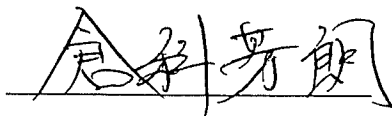
In response to a request from the Government of the State of Eritrea (hereinafter referred to as "Eritrea"), the Government of Japan decided to conduct a Basic Design Study on the Project for Rehabilitation of Bridges on the Asmara - Massawa Road (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA dispatched to Eritrea the Basic Design Study Team (hereinafter referred to as "the Team"), headed by Yoshiro KURASHINA, a Deputy Director of the Third Project Management Division, the Grant Aid Management Department, JICA, and the Team is scheduled to stay in the country from January 18 to February 26, 2004.

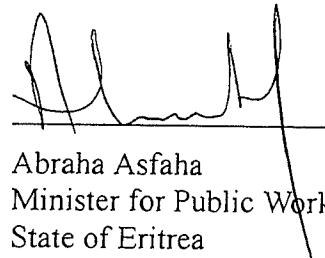
The Team held discussions with the officials concerned of the Government of Eritrea and conducted a field survey at the study area.

In the course of discussions and field survey, both sides confirmed the main items described in the attached sheets. The Team will proceed to further works and prepare the draft report.

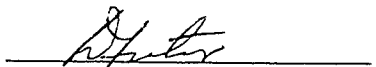
Asmara, January 23, 2004



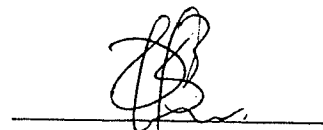
Yoshiro Kurashina  
Leader  
Basic Design Study Team  
Japan International Cooperation Agency



Abraha Asfaha  
Minister for Public Works  
State of Eritrea



Woldai Futur  
Minister for National Development  
State of Eritrea



Kidane Berhane  
Director General  
Department of Infrastructure  
Ministry of Public Works  
State of Eritrea

## ATTACHMENT

### 1. Components of the Interim Report

The Eritrean side agreed and accepted in principle the components of the interim draft report explained by the Team.

### 2. Items Requested by the Eritrean Side

As the result of the first field study and the first analysis in Japan, the components of the Project recommended by JICA and finally requested by the Eritrean side are as remarked follows.

- Gindae Bridge: A new bridge to be constructed on the new bypass route. (Annex-1)  
The present bridge will be limited to traffic of light vehicles.
- Gahtelai-1 Bridge: Superstructures to be replaced. Substructures to be repaired if necessary.
- Gahtelai-2 Bridge: Replacements and maintenance works to be unnecessary and excluded from the Project.
- Dogali-1 Bridge: Repair works to be conducted.
- Dogali-2 Bridge: A new bridge to be constructed near by the present position.
- Emculu Bridge: Repair works to be considered subject to further investigation.

The Team will also conduct further studies on the bypass roads at Gindae Bridge.

JICA will assess the appropriateness of the requests and recommend the result, contents of the final report, to the Government of Japan.

### 3. Japan's Grant Aid Scheme

The Eritrean side understands the Japan's Grant Aid scheme and the necessary measures to be taken by the Eritrean side as explained by the Team and described in Annex-3 and Annex-4 of the Minutes of Discussions signed by both sides on March 15, 2003.

### 4. Schedule of the Study

- 4-1. Consultant members will proceed to further studies in Eritrea until February 26, 2004.
- 4-2. JICA will prepare the draft final report in English and dispatch a mission to Eritrea in order to explain its contents around the end of May, 2004.
- 4-3. After the contents are reviewed and are accepted in principle by the Government of Eritrea, JICA will complete the final report and send it to the Government of Eritrea by July, 2004.

### 5. Other Relevant Issues

5-1. Although the mine inspection and clearance necessary for the Study has been completed, the Eritrean side shall be responsible to make the Project site free of mines, if necessary. Before the detailed design stage the Eritrean side will make the whole sites of the Project free of mines and keep the condition free of mines during detailed design stage and construction stage.



5-2. The Eritrean side will construct the connection roads, temporary roads and temporary bridges and demolish the temporary roads and temporary bridges by its own budget to provide smooth passage for traffic during construction period. The old bridges will be managed by the Government of Eritrea. In case that the superstructure of the Gahtelai 1 Bridge is to be replaced, the Japanese side will demolish the old superstructure for smooth schedule management.

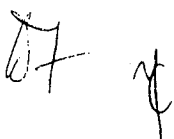
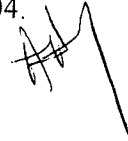
5-3. The section of Km0+000~Km1+110 (refer to Annex-1) of the bypass roads at Gindae Bridge shall be roughly constructed by the government of Eritrea and shall be ready before the implementation of new Gindae Bridge. However, the river training works at the Gindae Bridge can be built by the Government of Eritrea immediately after the construction of the bridge is completed.

5-4. If the land acquisition for construction of the bridges and the bypass is necessary, the Eritrean side shall complete the procedure for acquisition of necessary lands before the cabinet decision for the Project in Japan.

5-5. The procedures necessary for the approval of EIA (Environmental Impact Assessment) for the Project, including construction of the bypass roads at Gindae Bridge, shall be implemented by the Eritrean side before the cabinet decision for the Project in Japan.

5-6. In the process of land acquisition and EIA, the Government of Eritrea shall make full explanation to stakeholders on environmental and social impacts of the Project in advance and make the procedure disclosed to public in order to maintain accountability and participation of various stakeholders. The Team explained that the government of Japan had a policy of suspending the implementation of the Project unless the process of land acquisition and EIA would be completed and satisfied with above-mentioned conditions. The process of land acquisition and EIA will be monitored by the Team.

5-7. The Eritrean side shall provide necessary permissions, licenses and other authorizations for smooth implementation of the Project, as required. The Eritrean side shall inform the Team of the procedures of tax exemption for the Project by January 31, 2004.



End Point

← TO ASHARA

TO KUSKANA

PROPOSED ROAD LAYOUT  
SCALE 1:6500

Section of Km0+000~Km1+110

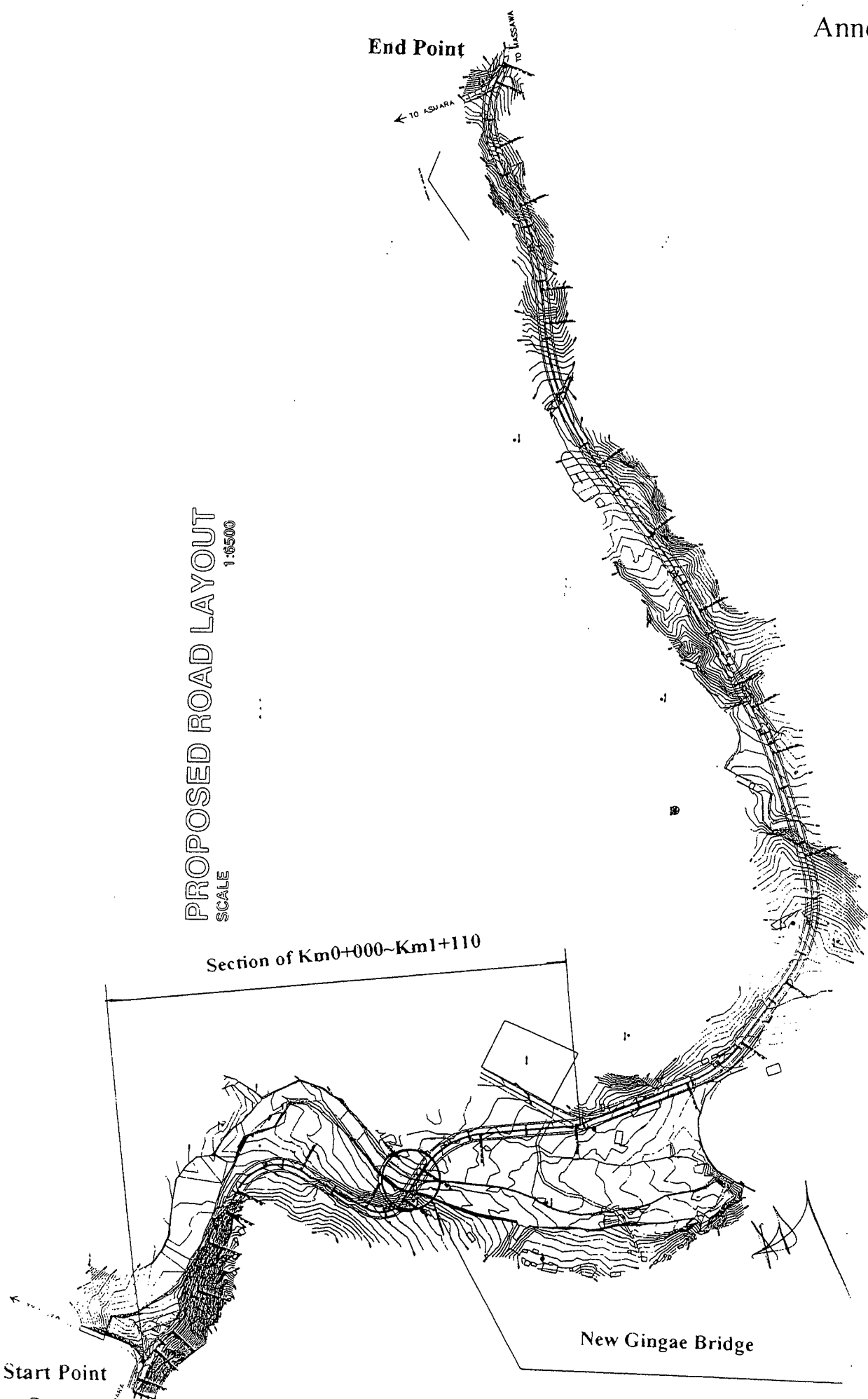
New Gingae Bridge

Start Point

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5, 3 第3次現地調査（平成16年4月23日～5月2日、5月20日～6月3日）  
（基本設計概要説明）

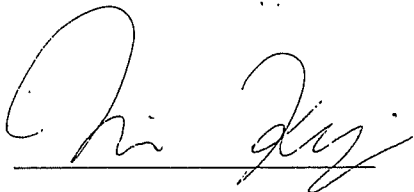
Minutes of Discussions  
on the Basic Design Study  
on the Project for Rehabilitation of Bridges on the Asmara - Massawa Road  
in the State of Eritrea  
(Explanation on Draft Report)

In January 2004, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the Basic Design Study Team on the Project for Rehabilitation of Bridges on the Asmara - Massawa Road (hereinafter referred to as "the Project") to the State of Eritrea (hereinafter referred to as "Eritrea"), and through discussions, field survey and technical examination of the results in Japan, JICA prepared the draft report of the study.

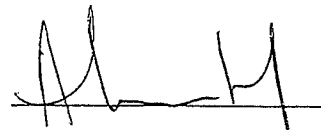
In order to explain and to consult with the officials concerned of the Government of Eritrea on the components of the draft report, JICA sent to Eritrea the Basic Design Explanation Team (hereinafter referred to as "the Team"), headed by Ms. Misa Kemmiya, an Assistant Resident Representative, JICA Kenya Office, from May 23 to 30, 2004.

As a result of discussions, both sides confirmed the main items described in the attached sheets.


Asmara, May 27, 2004



Misa Kemmiya  
Leader  
Basic Design Study Team  
Japan International Cooperation Agency



Abraha Asfaha  
Minister for Public Works  
State of Eritrea



Dr. Woldai Futur  
Minister for National Development  
State of Eritrea



Kidane Berhane  
Director General  
Department of Infrastructure  
Ministry of Public Works  
State of Eritrea

## ATTACHMENT

### 1. Components of the Draft Report

The Eritrean side agreed and accepted in principle the components of the draft report explained by the Team.

### 2. Schedule of the Study

JICA will complete the final report in accordance with the confirmed items and send it to the Government of Eritrea by July, 2004.

### 3. Other Relevant Issues

3-1. The Eritrean side shall complete by its own budget the following administrative procedures and construction works in the assigned timetable.

#### The First Phase

- Gahtelay1 Bridge: Acquisition of Construction Permission by February, 2005.  
Acquisition of Permission for Waste Disposal and Acquisition of Waste Disposal Sites by May, 2005.  
Construction of Detour Roads by May, 2005.
- Dogali-2 Bridge: Acquisition of Construction Permission by February, 2005.  
Acquisition of Construction Yards by June, 2005.  
Construction of Connection Roads after Completion of the Construction of the Bridge by August, 2006 (The Bridge will be used immediately after completion of the Bridge with temporary roads used during construction).

#### The Second Phase

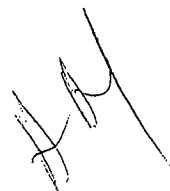
- Dogali-1 Bridge: Acquisition of Construction Permission by October, 2005.  
Construction of Detour Roads by January, 2006.
- Emculu Bridge: Acquisition of Construction Permission by October, 2005.  
Construction of Detour Roads by January, 2006.
- Gindae Bridge: Acquisition of Construction Permission by October, 2005.  
Construction of Bypass Roads as Construction Temporary Roads by February, 2006.  
Acquisition of Construction Yards by February, 2006.  
Completion of the Construction of Gindae Bypass Roads by November, 2006.  
Construction of Revetments immediately after Completion of the Bridge and the Bypass Roads Construction.

The Eritrean side shall send monthly progress reports of the bypass road project to the Japanese side during the term of the second phase.



3-2. The Eritrean side shall carry out the land acquisition and the Relocation of Residents in the Gindae bypass project based on Environmental Impact Assessment (EIA) Report prepared in May, 2004, by the Eritrean side in accordance with the Eritrean National Guidelines for Environmental and Social Considerations which are compatible with the JICA Guidelines. The environmental and social effects in the implementation phase and the consequences of the land acquisition and the relocation of residents will be monitored jointly by the Department of Environment and Japanese side.

3-3. Before the beginning of construction, the Eritrean side will ensure that all the sites of the Project are free of land mines and maintain them through out the construction stage.



## 基本設計概要表

1	案件名
エリトリア国アスマラーマッサワ道路橋梁改修計画	
2	要請の背景（協力の必要性・位置付け）
<p>1993年の独立まで30年におよぶ内戦のために破壊されたインフラの復旧、経済再建が国家開発計画上の最重要課題として挙げられている。道路セクターにおいては、独立後世銀主導による再建復興計画にのっとり道路インフラ整備が実施されてきた。</p> <p>本計画対象橋梁の位置するアスマラーマッサワ道路は、現在国際貿易港マッサワと首都アスマラを直結する幹線道路である。この道路はエリトリア国の生命線であり、また、2003年に完成した今後15年にわたるアクションプランが折り込まれている道路セクター開発計画RSDPにおいても、最優先道路として位置付けられている。</p> <p>この対象道路は、1993年の独立後から1997年までEUの資金援助により道路線形改良、排水改良、アスファルト舗装および安全施設設置等が実施されてきた。しかし、本路線上で橋長2.5m以上となる本計画対象橋梁6橋に対して、現在まで改修の対象とはならなかったことにより、これらの橋梁は、経年劣化や車両衝突により橋梁健全性が著しく失われている可能性が高く、主要部材の一部が破壊されたままの危険な状態で供用されている。このような背景にあつて、本計画対象となる6橋を改修する事により、落橋などの最悪事態を回避し、アスマラ～マッサワ間の走行安全を確保する目的で、本計画の実現を目指すものである。</p>	
3	プロジェクト全体計画概要 <span style="float: right;">*下線部：本無償資金協力に直接関係する成果、活動および投入</span>
<p>(1) プロジェクト全体計画の目標（裨益対象の範囲及び規模） アスマラーマッサワ間において円滑かつ安定的な交通が確保される。 裨益対象：アスマラーマッサワ道路の通過する Mackel, S.K.Bahri 2州/裨益人口：約108万人</p> <p>(2) プロジェクト全体計画の成果 対象橋梁が整備される。</p> <p>(3) プロジェクト全体計画の主要活動 <u>2004～2006年の3年間でアスマラーマッサワ道路の主要橋梁5橋の改修工事を行う。</u></p> <p>(4) 投入（インプット） ア <u>日本側（＝本案件）：無償資金協力6.47億円</u> イ 相手国側 (ア) 橋梁建設に付随する取付道路（バイパス道路も含む）、迂回路および河川護岸工に係る費用 (イ) ギンダ橋およびドガリ2橋についての取付道路に関する土地取得および建設ヤード造成のための土地借り上げ費用 (ウ) 必要に応じた地雷探査・除去費用 (エ) 橋梁建設後の維持管理費用</p> <p>(5) 実施体制 実施機関：エリトリア国公共事業省社会基盤局</p>	
4	無償資金協力案件の内容
<p>(1) サイト アスマラーマッサワ道路（延長約105km）上の5橋梁</p> <p>(2) 概要 架け替え対象橋梁3橋、補修対象橋梁2橋の計5橋梁の改修</p> <p>(3) 相手国側負担事項 ① 建設用地の確保 ② 建設に必要な手続き ③ 必要に応じて地雷探査・除去 ④ 橋梁建設に付随する土木工事</p> <p>(4) 概算事業費 概算事業費6.90億円（無償資金協力6.47億円、相手国側負担0.43億円）</p> <p>(5) 工期 詳細設計・入札期間を含め約28ヶ月（予定）</p> <p>(6) 貧困、ジェンダー、環境及び社会面の配慮 相手国側建設予定のギンダバイパス建設に伴う住民移転の状況をモニターする。</p>	

5 外部要因リスク（プロジェクト全体計画の目標の達成に関するもの）
<ul style="list-style-type: none"> <li>(1) 近隣諸国、特にエチオピア国との関係が不安定にならない。</li> <li>(2) 洪水、地震など予想を越える災害が発生しない。</li> </ul>
6 過去の類似案件からの教訓の活用
特になし
7 プロジェクト全体計画の事後評価に係る提案
<ul style="list-style-type: none"> <li>(1) プロジェクト全体計画の目標達成を示す成果指標 <ul style="list-style-type: none"> <li>・ 補修される橋梁の構造的強化による耐用年数の長期化</li> <li>・ 架け替え橋梁に対して、最大滞留時間4分の解消</li> </ul> </li> <li>(2) その他の成果指標 <ul style="list-style-type: none"> <li>・ 特になし</li> </ul> </li> <li>(3) 評価のタイミング 2008年以降（施設完了後1年経過後）</li> </ul>

資料 7 参考資料／入手資料リスト

調査名： エリトリア国アスマラーマッサワ道路橋梁改修計画基本設計調査

番号	名称	資料 形態	オリジナル ／コピー	発行機関	発行年
1	対象道路周辺 1/100,000 地図	地図	コピー	ロシア製作	不明
2	Eritrea Road Sector Development Program (RSDP) Vol.A Main Report	報告書	コピー	Smec. International Pty.Ltd.	September 2003
3	Eritrea Road Sector Development Program (RSDP) Vol.B The Road Sector	報告書	コピー	Smec. International Pty.Ltd.	September 2003
4	Eritrea Road Sector Development Program (RSDP) Vol.C Road Maintenance and Development Program	報告書	コピー	Smec. International Pty.Ltd.	September 2003
5	Eritrea Road Sector Development Program (RSDP) Vol.D Institutional Arrangements	報告書	コピー	Smec. International Pty.Ltd.	September 2003
6	Road Sector Engineering Project (RSEP) National Bridge Rehabilitation Maintenance and Reconstruction Report	報告書	コピー	Carl Bro International a/s	Mar. 2000
7	Gindae Town By-Pass and Associated Bridges: Hydrological and Hydraulic Design Report	図書	コピー	GEDECC	July 2002
9	Project:Feasibility Study and Detailed Engineering Design Kna-fan Bridge,Eritrea:Design Criteria	資料	コピー	不明	不明
10	Regulation on Vehicles Technical and Related Standard Specification	図書	コピー	Gouvernment of Eritrea	2002
11	Staff Apraisal Report:Eritrea Ports Rehabilitation Project	図書	コピー	World Bank	Oct.1997



1 2	Comparative Statistics on Massawa Ports Activities (1991~2002)	図書	コピー	Massawa Port	2002
1 3	Massawa Port Master Plan Study- Interim Report	報告書	コピー	Royal Haskoning	Feb. 2002
1 4	Massawa Port Master Plan Study- Demand Forecasts	報告書	コピー	Royal Haskoning	Apr. 2002
1 5	Privatisation of Public Enterprises Proclamation	図書	コピー	Gouvernment of Eritrea	1995
1 6	The Labour Proclamation of Eritrea	図書	コピー	Gouvernment of Eritrea	2001
1 7	A Proclamation to Establish the Eritrean Demining Authority	図書	コピー	Gouvernment of Eritrea	2002
1 8	The Customs Proclamation	図書	コピー	Go. of Eritrea	2000
1 9	National Environmental Management Plan - Eritrea	図書	コピー	Gouvernment of Eritrea	2002
2 0	National Environmental Assessment Procedures and Guidelines	図書	コピー	Gouvernment of Eritrea	Mar. 1999
2 1	Environmental Impact Assessment – Final Report on Massawa Inter. Airport Project	報告書	コピー	Groupe Sofreavia	May. 2002
2 2	Eeritrea Environmental and Social Assessment Guidelines for Road Operation	報告書	コピー	S m e c	Aug. 2002
2 3	Envirmmnetal Evaluation Questionnaire for Bridges Lager than 10 metres	図書	コピー	不明	不明
2 4	Monthly Rainfall Data Massawa,Gindae	資料	コピー	不明	不明
2 5	Map of Administrative Regions	地図	コピー	不明	不明
2 6	A Note on Earthquake Hazard in Eritrea	図書	コピー	University of Asmara	May 1998