

Appendices for Chapter 6

APP.6.3.1 Project Profile

- (1) Project Profile for Lacro- I Urgent Irrigation Rehabilitation Project
- (2) Project Profile for Lacro- II Urgent Irrigation Rehabilitation Project
- (3) Project Profile for Seical Urgent Irrigation Rehabilitation Project
- (4) Project Profile for Uatolari-Urgent Irrigation Rehabilitation Project
- (5) Project Profile for Laleia-R Urgent Irrigation Rehabilitation Project
- (6) Project Profile for 20 Irrigation System O/M Strengthening Project

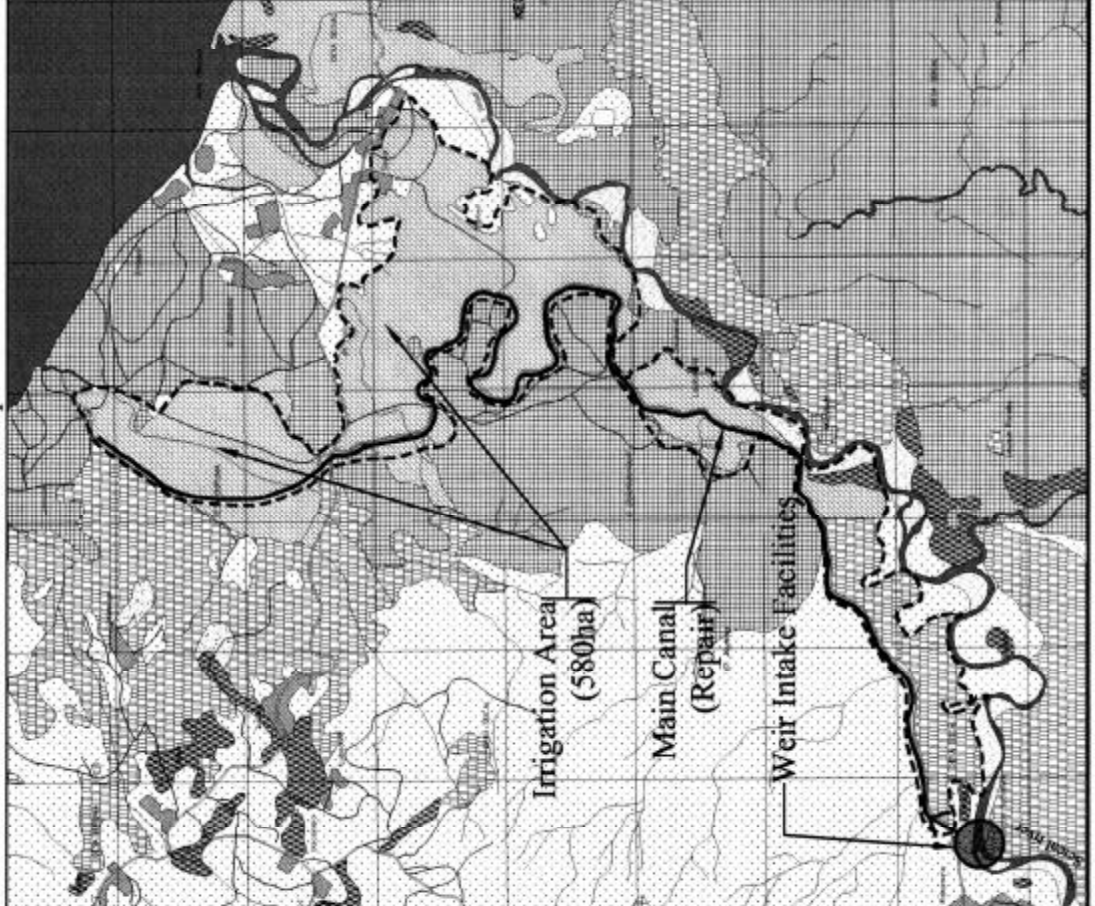
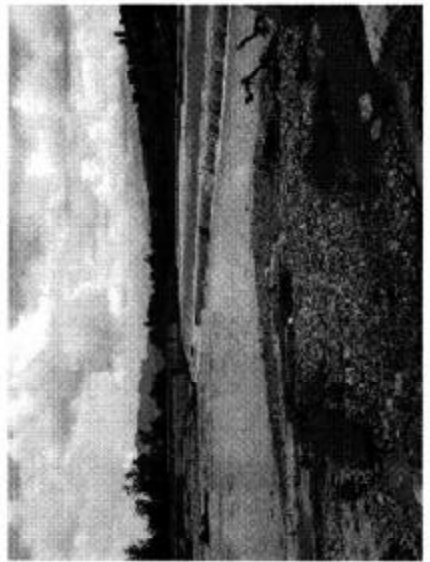
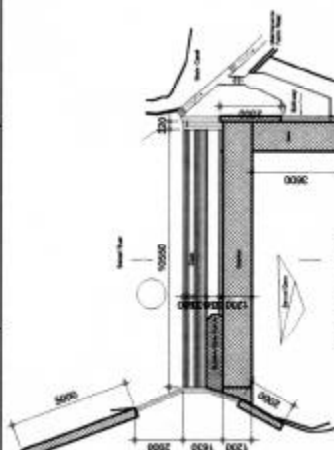
APP.6.3.1 Project Profile (1): Project profile for Laclo-I Urgent Irrigation Rehabilitation Project

Project No.	01	Project Name	Laclo Irrigation Rehabilitation Project - Phase I		Project Cost (Thousand US\$)													
Development Body	UNTAET		Development Method		Exchange rate: 1US\$ = 110 Yen (June, 2000)													
Operation Body			<input checked="" type="checkbox"/> BQ bidding <input type="checkbox"/> BOT / BT <input type="checkbox"/> Other		Total 3,115,000 Civil works 2,408,000 Contingency (10% of Civil works) 242,000 Engineering 505,000													
Location Map			Major Development Components															
			420ha 1. Irrigation benefit area 2. Rehabilitation works															
Financial Assistance			Project Description															
<input checked="" type="checkbox"/> Required <input type="checkbox"/> Not required			Laclo irrigation system of 660ha is located at the downstream of laclo river flowing in the east of Manatuto district. Principal irrigation infrastructures such as intake, apart of main canal, siphon and culvert were destroyed by flood and the irrigation system is not function at present. The rehabilitation plan of the project is divided into the two phases and implemented. Temporarily intake structure is constructed in sunnasse river and the conducting canal is constructed to connect from the intake to the existing main canal for water conveyance in Phase I. The paddy field of 420 ha will be irrigated.															
			Site picture 															
Implementation Schedule			<table border="1"> <thead> <tr> <th>Year</th> <th>2000/2001</th> <th>2001/2002</th> <th>2002/2003</th> </tr> </thead> <tbody> <tr> <td>D/D and tendering</td> <td style="text-align: center;">■</td> <td></td> <td></td> </tr> <tr> <td>Construction</td> <td></td> <td style="text-align: center;">■</td> <td></td> </tr> </tbody> </table>				Year	2000/2001	2001/2002	2002/2003	D/D and tendering	■			Construction		■	
Year	2000/2001	2001/2002	2002/2003															
D/D and tendering	■																	
Construction		■																
Facility Item			Structure Content		Scale													
Temporary intake			Gabion dike Intake gate		H:2.0m, L:80m B:1.0m 1set													
Conducting Canal			Masonry canal		H:1.8m, B:2.8m, L:300m													
Bridge			Concrete culvert box		B:3.5m, L:9.0m													
Repair Canal			Main Canal & related structures		L = 100.0m													
Repair gate			Scouring gate		B:1.0m 2 unite													
Protection dike			Gabion Dike		H:2 - 3.0m, L:700m													
Maintenance & Farm Road			Embankment & gravel pavement		B:3.0m, L:2,800m													
union's house			Steel Frame house		A: 50m ²													
Procurement Equipment			Back hoe(excavation), Rice mill: 1 unit		Back hoe: 0.3m ³ Rice mill: 1 unit													

APP.6.3.1 Project Profile (2): Project Profile for Lacro-II Urgent Irrigation Rehabilitation Project

Project No.	02	Project Name	Lacro Irrigation Rehabilitation Project - Phase II		Project Cost (Thousand US\$)																									
Development Body	UNTAET		Development Method		Exchange rate: 1US\$ = 110 Yen (June, 2000)																									
Operation Body			<input checked="" type="checkbox"/> BQ bidding <input type="checkbox"/> BOT / BT <input type="checkbox"/> Other		Total	6,410,000																								
			Financial Assistance		Civil works	4,931,000																								
			<input checked="" type="checkbox"/> Required <input type="checkbox"/> Not required		Contingency (10% of Civil works)	493,000																								
					Engineering	986,000																								
Location Map			Project Description																											
			660ha																											
			<p>1. Irrigation benefit area 2. Rehabilitation works</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Facility Item</th> <th>Structure Content</th> <th>Scale</th> </tr> </thead> <tbody> <tr> <td>Intake facility</td> <td>Construction Gabion dike Construction Concrete dike Scouring gate</td> <td>H:2.0m, L:27.0 H:1-2.0m, L:26.0m B:1.6m, 2 unit</td> </tr> <tr> <td>Protection dike</td> <td>Masonry Gabion</td> <td>H:2-4.0m, L:38.0 H:2-3.0m, L-750.0m</td> </tr> <tr> <td>Sumasse siphon</td> <td>Concrete culvert box, (with protection dam)</td> <td>L: 100.0m</td> </tr> <tr> <td>Culvert Canal</td> <td>Concrete culvert box</td> <td>L:145.0m</td> </tr> <tr> <td>Main Canal</td> <td>Masonry</td> <td>H:1.8m, B:2.8m, L:1,400m</td> </tr> <tr> <td>Repair gate</td> <td>Intake gate, Scouring gate Distribution gate</td> <td>B:1.4m, 4 units B:1.4m, 2 units</td> </tr> <tr> <td>Maintenance & Farm road</td> <td>Embankment & gravel pavement</td> <td>B:3.0m, L:1,500m</td> </tr> <tr> <td>Procurement Equipment</td> <td>Rice mill</td> <td>Rice mill : 1 unite</td> </tr> </tbody> </table>				Facility Item	Structure Content	Scale	Intake facility	Construction Gabion dike Construction Concrete dike Scouring gate	H:2.0m, L:27.0 H:1-2.0m, L:26.0m B:1.6m, 2 unit	Protection dike	Masonry Gabion	H:2-4.0m, L:38.0 H:2-3.0m, L-750.0m	Sumasse siphon	Concrete culvert box, (with protection dam)	L: 100.0m	Culvert Canal	Concrete culvert box	L:145.0m	Main Canal	Masonry	H:1.8m, B:2.8m, L:1,400m	Repair gate	Intake gate, Scouring gate Distribution gate	B:1.4m, 4 units B:1.4m, 2 units	Maintenance & Farm road	Embankment & gravel pavement	B:3.0m, L:1,500m
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Maintenance & Farm road	Embankment & gravel pavement	B:3.0m, L:1,500m																												
Procurement Equipment	Rice mill	Rice mill : 1 unite																												
<p style="text-align: center;">SUMASSE SIPHON</p>			Site picture																											
			Implementation Schedule																											
			Year	2000/2001	2001/2002	2002/2003																								
			D/D and tendering	█	█	█																								
			Construction	█	█	█																								

APP.6.3.1 Project Profile (3): Project profile for Seical Irrigation Rehabilitation Project

Project No.	03	Project Name	Seical Irrigation Rehabilitation Project		Project Cost (Thousand US\$)																							
Development Body	UNTAET		Development Method		Exchange rate: 1US\$ = 110Yen																							
Operation Body	-		<input checked="" type="checkbox"/> BQ bidding <input type="checkbox"/> BOT / BT <input type="checkbox"/> Other		Total	2,143,000																						
Location Map			<div style="text-align: center;">  <p style="text-align: center;">Irrigation Area (580ha)</p> <p style="text-align: center;">Main Canal (Repair)</p> <p style="text-align: center;">Weir Intake Facilities</p> </div>		Financial Assistance																							
					<input checked="" type="checkbox"/> Required <input type="checkbox"/> Not required	Civil works	1,364,000																					
						Contingency (10% of Civil works)	136,000																					
						Engineering	643,000																					
			Major Development Components	Project Description																								
			1. Irrigation benefit area 2. Rehabilitation works	The Seical irrigation system lies to the north of Baucau city. The system irrigates the area of 580 ha, which is located at the low land of the right bank of the Seical river. The weir of 2 m height and 95 m length was constructed with a cross-sectional direction to the river for intake. The weir is in the dangerous condition because the rear apron was destroyed by a flood in 1998. The destroyed portion is 30 m in length and gabion riprap and both side walls were washed away. The destruction badly affects to the safety of the weir. Consequently, it is urgently required to rehabilitate those facilities. The main canal is necessary to repair at some places																								
			<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Facility Item</th> <th>Structure Content</th> <th>Scale</th> </tr> </thead> <tbody> <tr> <td>Intake Dam facility</td> <td>Rear apron (concrete) Rip Lap (Gabion)</td> <td>A: 210 m² A: 1,550 m²</td> </tr> <tr> <td>Protection dike</td> <td>Gabion Masonry</td> <td>H:2.0m, L:50m, H:3.0m, L:40m</td> </tr> <tr> <td>Repair Main Canal</td> <td>Masonry</td> <td>H:1.8m, B:1..8m Partly repair (L: 500m)</td> </tr> <tr> <td>Maintenance & Farm road</td> <td>Embankment & gravel pavement</td> <td>B:3.0m, L:10 km</td> </tr> <tr> <td>Union's house</td> <td>Steel Frame house</td> <td>A: 50m²</td> </tr> <tr> <td>Procurement Equipment</td> <td>Rice mill</td> <td>Rice mill : 1 unit</td> </tr> </tbody> </table>	Facility Item	Structure Content	Scale	Intake Dam facility	Rear apron (concrete) Rip Lap (Gabion)	A: 210 m ² A: 1,550 m ²	Protection dike	Gabion Masonry	H:2.0m, L:50m, H:3.0m, L:40m	Repair Main Canal	Masonry	H:1.8m, B:1..8m Partly repair (L: 500m)	Maintenance & Farm road	Embankment & gravel pavement	B:3.0m, L:10 km	Union's house	Steel Frame house	A: 50m ²	Procurement Equipment	Rice mill	Rice mill : 1 unit	<div style="text-align: center;">  <p style="text-align: center;">Site picture</p> </div>			
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Union's house	Steel Frame house	A: 50m ²																										
Procurement Equipment	Rice mill	Rice mill : 1 unit																										
			 <p style="text-align: center;">SEICAL DAM</p>		Implementation Schedule <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Year</th> <th>2000/2001</th> <th>2001/2002</th> <th>2002/2003</th> </tr> </thead> <tbody> <tr> <td>D/D and tendering</td> <td style="text-align: center;">█</td> <td></td> <td></td> </tr> <tr> <td>Construction</td> <td></td> <td style="text-align: center;">█</td> <td></td> </tr> </tbody> </table>			Year	2000/2001	2001/2002	2002/2003	D/D and tendering	█			Construction		█										
Year	2000/2001	2001/2002	2002/2003																									
D/D and tendering	█																											
Construction		█																										

APP.6.3.1 Project Profile (4): Project profile for Uatolari-I Urgent Irrigation Rehabilitation Project

Project No.	04	Project Name	Uatolari I Irrigation Rehabilitation Project		Project Cost (Thousand US\$)																						
			Development Method	Financial Assistance	Exchange rate: 1US\$ = 110 Yen (June, 2000)	Total																					
Development Body	UNTAET		<input checked="" type="checkbox"/> BQ bidding	<input checked="" type="checkbox"/> Required		2,493,000																					
Operation Body			<input type="checkbox"/> BOT / BT	<input type="checkbox"/> Not required		1,682,000																					
			<input type="checkbox"/> Other			168,000																					
Location Map			Major Development Components																								
			<p>680ha</p> <p>1. Irrigation benefit area 2. Rehabilitation works</p> <table border="1"> <thead> <tr> <th>Facility Item</th> <th>Structure Content</th> <th>Scale</th> </tr> </thead> <tbody> <tr> <td>Intake Dam</td> <td>Temporary intake Riprap (gabion)</td> <td>H:1.0m, B:4.0m, L:130m H:1.0m, A:1,040m²</td> </tr> <tr> <td>Intake facility</td> <td>Intake pipe Conducting canal (gabion dike)</td> <td>Diameter:800mm, L:36m L:100m</td> </tr> <tr> <td>Repair Main Canal</td> <td>Masonry canal Canal cleaning</td> <td>H:1.5m B:1.6~1.0m L:2.50km</td> </tr> <tr> <td>Maintenance & Farm road</td> <td>Embankment & gravel pavement</td> <td>B:3.0m, L:2.50km</td> </tr> <tr> <td>Union's house</td> <td>Steel Frame house</td> <td>A: 50m²</td> </tr> <tr> <td>Procurement Equipment</td> <td>Back hoe (excavation)</td> <td>Back hoe: 0.3m³</td> </tr> </tbody> </table>				Facility Item	Structure Content	Scale	Intake Dam	Temporary intake Riprap (gabion)	H:1.0m, B:4.0m, L:130m H:1.0m, A:1,040m ²	Intake facility	Intake pipe Conducting canal (gabion dike)	Diameter:800mm, L:36m L:100m	Repair Main Canal	Masonry canal Canal cleaning	H:1.5m B:1.6~1.0m L:2.50km	Maintenance & Farm road	Embankment & gravel pavement	B:3.0m, L:2.50km	Union's house	Steel Frame house	A: 50m ²	Procurement Equipment	Back hoe (excavation)	Back hoe: 0.3m ³
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Maintenance & Farm road	Embankment & gravel pavement	B:3.0m, L:2.50km																									
Union's house	Steel Frame house	A: 50m ²																									
Procurement Equipment	Back hoe (excavation)	Back hoe: 0.3m ³																									
<p>WEIR & SUBMERGED BRIDGE</p>			<p>Uatolari-I irrigation system lies near to the southern coast in the south-east of Viqueque district. Its command area is 680 ha locating at the low land of the left bank of the Bebuí river. The intake weir was washed away by a flood in 1989. Consequently, the weir can not be used at present. In the rainy season, the farmers make a simple intake for a minor irrigation every year. As the main canal is not used, sediments are thick in the canal. In addition, some parts of masonry of canal slopes were destroyed. Therefore, it is necessary to reconstruct of intake weir and repair canal network.</p> <p>A new weir will be constructed at the new site which is 150 m far from the former site to the upstream. The height and length of a crest are 1.00 m and 90 m, respectively</p>																								
<table border="1"> <thead> <tr> <th colspan="3">Implementation Schedule</th> </tr> <tr> <th>Year</th> <th>2000/2001</th> <th>2001/2002</th> <th>2002/2003</th> </tr> </thead> <tbody> <tr> <td>D/D and tendering</td> <td></td> <td>■</td> <td></td> </tr> <tr> <td>Construction</td> <td></td> <td></td> <td>■</td> </tr> </tbody> </table>			Implementation Schedule			Year	2000/2001	2001/2002	2002/2003	D/D and tendering		■		Construction			■	<p>Site picture</p>									
Implementation Schedule																											
Year	2000/2001	2001/2002	2002/2003																								
D/D and tendering		■																									
Construction			■																								

APP.6.3.1 Project Profile (5): Project profile for Laleia Right Urgent Irrigation Rehabilitation Project

Project No.	05	Project Name	Laleia Right Irrigation Rehabilitation Project																									
Development Body	UNTAET		Project Cost (Thousand US\$)																									
Operation Body	Development Method <input checked="" type="checkbox"/> BQ bidding <input type="checkbox"/> BOT / BT <input type="checkbox"/> Other		Exchange rate: 1US\$ = 110 Yen (June, 2000) Total 2,860,000 Civil works 2,200,000 Contingency (10% of Civil works) 220,000 Engineering 440,000																									
Location Map			Project Description																									
			The Laleia -R irrigation system lies at the east of 50 km from Manatuto city. The target area of irrigation is 600 ha and reaches to the right bank of the Laleia river and partly to Vemasse. The intake facility was destroyed by flood and is not functional now. The farmers make free intakes at the downstream for themselves and take water for minor irrigation. Especially, Vemasse area can not cultivate. In addition, some parts of the maintenance road for an intake facility and a main canal are suspended, which hinders the management of facilities. On the other hand, the discharge of the river is enough and rice production can be expected on an enlarged scale if an intake facility is functional again. For getting water with stability by easy access to the main stream of the river, the conducting dike and the scouring gate are planned. In addition, the regulating gate is equipped to prevent surplus water in floods.																									
Major Development Components 600ha 1. Irrigation benefit area 2. Rehabilitation works			Site picture 																									
<table border="1"> <thead> <tr> <th>Facility Item</th> <th>Structure Content</th> <th>Scale</th> </tr> </thead> <tbody> <tr> <td>Intake facility</td> <td>Conducting dike Scouring gate Intake gate</td> <td>H:1.0-2.0m, L: 33.0m B:1.6m, 1 unit B:1.0m, 1 unit</td> </tr> <tr> <td>Protection dike</td> <td>Masonry wall Gabion wall</td> <td>H:4-2m, L: 25.0m H:3-2m, L: 25.0m</td> </tr> <tr> <td>Main Canal</td> <td>Masonry</td> <td>H:1.0m, B:1.5m, L: 3.5km</td> </tr> <tr> <td>Repair gate</td> <td>Distribution gate</td> <td>B:0.6m, 2 sets</td> </tr> <tr> <td>Maintenance & Farm road</td> <td>Embankment & gravel pavement</td> <td>B:3.0m, L: 2.0km</td> </tr> <tr> <td>Union's house</td> <td>Steel Frame house</td> <td>A: 50m²</td> </tr> <tr> <td>Procurement Equipment</td> <td>Back hoe(excavation)</td> <td>Back hoe: 0.3m³</td> </tr> </tbody> </table>			Facility Item	Structure Content	Scale	Intake facility	Conducting dike Scouring gate Intake gate	H:1.0-2.0m, L: 33.0m B:1.6m, 1 unit B:1.0m, 1 unit	Protection dike	Masonry wall Gabion wall	H:4-2m, L: 25.0m H:3-2m, L: 25.0m	Main Canal	Masonry	H:1.0m, B:1.5m, L: 3.5km	Repair gate	Distribution gate	B:0.6m, 2 sets	Maintenance & Farm road	Embankment & gravel pavement	B:3.0m, L: 2.0km	Union's house	Steel Frame house	A: 50m ²	Procurement Equipment	Back hoe(excavation)	Back hoe: 0.3m ³		
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Repair gate	Distribution gate	B:0.6m, 2 sets																										
Maintenance & Farm road	Embankment & gravel pavement	B:3.0m, L: 2.0km																										
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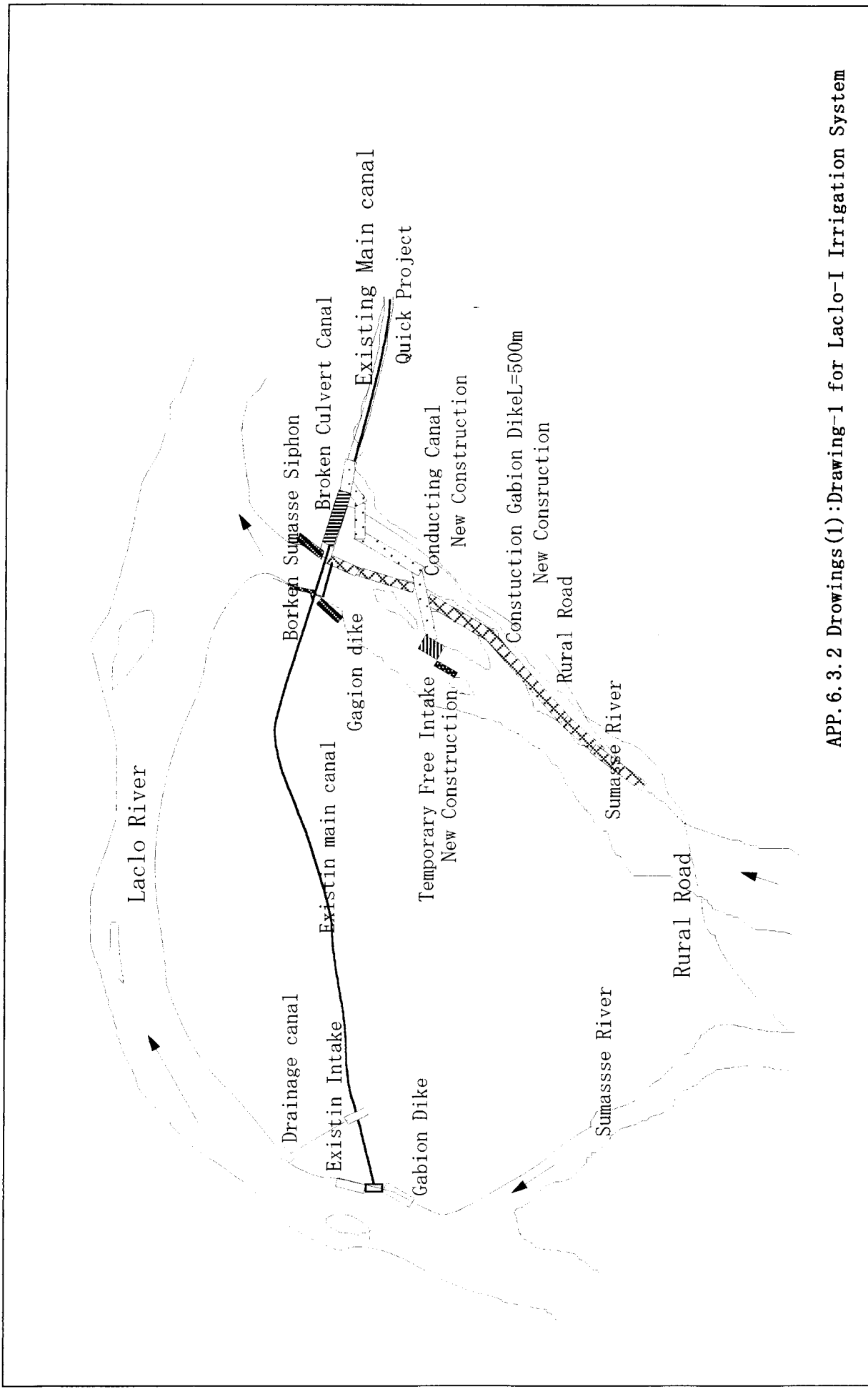
APP.6.3.1 Project Profile (6): Project Profile for 20 Irrigation Systems O/M Strengthening Project

Project No.	06	Project Name	20 Irrigation Systems Operation and Maintenance Strengthening Project		Project Cost (Thousand US\$)																																																								
Development Body	UNTAET		Development Method		Exchange rate: 1US\$ = 110 Yen (June, 2000)																																																								
Operation Body			<input checked="" type="checkbox"/> BQ bidding <input type="checkbox"/> BOT / BT <input type="checkbox"/> Other		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="text-align: right;">Total</td> <td style="text-align: right;">4,920,000</td> </tr> <tr> <td style="text-align: right;">Equipment</td> <td style="text-align: right;">4,000,000</td> </tr> <tr> <td style="text-align: right;">Contingency (10% of Civil works)</td> <td style="text-align: right;">600,000</td> </tr> <tr> <td style="text-align: right;">Engineering</td> <td style="text-align: right;">302,000</td> </tr> </table>		Total	4,920,000	Equipment	4,000,000	Contingency (10% of Civil works)	600,000	Engineering	302,000																																															
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Location Map			Project Description																																																										
<p style="text-align: center;">Location Map of Irrigation O/M Station</p>			<p>Many irrigation systems have depended on annual maintenance operations normally carried out before and after the rainy season - because these operations have not been carried and, because many irrigation systems have been sited flashy, highly crocive river systems</p> <p>This project is not construction project but supply and procurement of equipment for operation and maintenance in irrigation sector. Equipment will be supplied to regional operation and maintenance (O/M) stations. These O/M stations will be organized by East Timor side.</p> <p>The establishment of regional O/M stations is essential to integrate all farmers and to be able to plan and work effectively. Many local government staffs, technicians and farmers will be participated in workshops, trainings and activities in implementation stage.</p>																																																										
Major Development Components			<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">Major Component of Equipment</th> <th>Number of Equipment (unit)</th> <th>Distribution place</th> <th>Purpose</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Equipment for workshop</td> <td>1</td> <td>Dili workshop</td> <td>Delivery of excavators</td> </tr> <tr> <td>2</td> <td>Mobile workshop</td> <td>1</td> <td>Dili workshop</td> <td>Repair for equipment</td> </tr> <tr> <td>3</td> <td>Excavator (Black box)</td> <td>5</td> <td>9 O/M stations</td> <td>Repair for temporary construction canals and roads dredging of sediment and roads</td> </tr> <tr> <td>4</td> <td>Breaker cutter</td> <td>16</td> <td>9 O/M stations</td> <td>Maintenance & operation for canals</td> </tr> <tr> <td>5</td> <td>4 ton cargo truck with crane</td> <td>9</td> <td>9 O/M stations</td> <td>Transportation for equipment, agricultural products and inputs</td> </tr> <tr> <td>6</td> <td>Pickup</td> <td>10</td> <td>Dili workshop & 9 O/M stations</td> <td>Transportation for agricultural products and inputs</td> </tr> <tr> <td>7</td> <td>Renovator pump</td> <td>9</td> <td>9 O/M stations</td> <td>Emergency irrigation pump</td> </tr> <tr> <td>8</td> <td>Rice mill</td> <td>19</td> <td>9 O/M stations</td> <td>Milling of paddy</td> </tr> <tr> <td>9</td> <td>Power lineaker</td> <td>29</td> <td>9 O/M stations</td> <td>Threading of paddy</td> </tr> <tr> <td>10</td> <td>Diesel oil</td> <td>500</td> <td>9 O/M stations</td> <td>Fuel for O/M equipment</td> </tr> </tbody> </table>				Major Component of Equipment		Number of Equipment (unit)	Distribution place	Purpose	1	Equipment for workshop	1	Dili workshop	Delivery of excavators	2	Mobile workshop	1	Dili workshop	Repair for equipment	3	Excavator (Black box)	5	9 O/M stations	Repair for temporary construction canals and roads dredging of sediment and roads	4	Breaker cutter	16	9 O/M stations	Maintenance & operation for canals	5	4 ton cargo truck with crane	9	9 O/M stations	Transportation for equipment, agricultural products and inputs	6	Pickup	10	Dili workshop & 9 O/M stations	Transportation for agricultural products and inputs	7	Renovator pump	9	9 O/M stations	Emergency irrigation pump	8	Rice mill	19	9 O/M stations	Milling of paddy	9	Power lineaker	29	9 O/M stations	Threading of paddy	10	Diesel oil	500	9 O/M stations	Fuel for O/M equipment
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Staff of O/M Stations and Workshop			<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>No.</th> <th>Profession</th> <th>Number (persons)</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Manager</td> <td>10</td> <td>Workshop and O/M Sta.</td> </tr> <tr> <td>2</td> <td>Clark</td> <td>10</td> <td>Workshop and O/M Sta.</td> </tr> <tr> <td>3</td> <td>Driver for trailer truck</td> <td>1</td> <td>Workshop</td> </tr> <tr> <td>4</td> <td>Operator for excavator</td> <td>9</td> <td>O/M Stations</td> </tr> <tr> <td>5</td> <td>Driver for 4 ton cargo truck with crane</td> <td>9</td> <td>O/M Stations</td> </tr> <tr> <td>6</td> <td>Driver for 2 ton cargo truck</td> <td>10</td> <td>O/M Stations</td> </tr> <tr> <td>7</td> <td>Operator for rice mill</td> <td>9</td> <td>O/M Stations</td> </tr> <tr> <td>8</td> <td>Mechanics</td> <td>1</td> <td>Workshop</td> </tr> <tr> <td>9</td> <td>Assistant</td> <td>21</td> <td>Workshop and O/M Sta.</td> </tr> <tr> <td></td> <td>Total</td> <td>80</td> <td></td> </tr> </tbody> </table> <p>New employment opportunities make by the the establishments of these O/M stations and 80 persons will be get the new job</p>				No.	Profession	Number (persons)	Remarks	1	Manager	10	Workshop and O/M Sta.	2	Clark	10	Workshop and O/M Sta.	3	Driver for trailer truck	1	Workshop	4	Operator for excavator	9	O/M Stations	5	Driver for 4 ton cargo truck with crane	9	O/M Stations	6	Driver for 2 ton cargo truck	10	O/M Stations	7	Operator for rice mill	9	O/M Stations	8	Mechanics	1	Workshop	9	Assistant	21	Workshop and O/M Sta.		Total	80												
No.	Profession	Number (persons)	Remarks																																																										
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	Total	80																																																											
Implementation Schedule			<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Year</th> <th>2000/2001</th> <th>2001/2002</th> <th>2002/2003</th> </tr> </thead> <tbody> <tr> <td>D/D and tendering</td> <td></td> <td style="text-align: center;">■</td> <td></td> </tr> <tr> <td>Construction</td> <td></td> <td></td> <td style="text-align: center;">■</td> </tr> </tbody> </table>				Year	2000/2001	2001/2002	2002/2003	D/D and tendering		■		Construction			■																																											
Year	2000/2001	2001/2002	2002/2003																																																										
D/D and tendering		■																																																											
Construction			■																																																										
Site picture																																																													

Appendices for Chapter 6

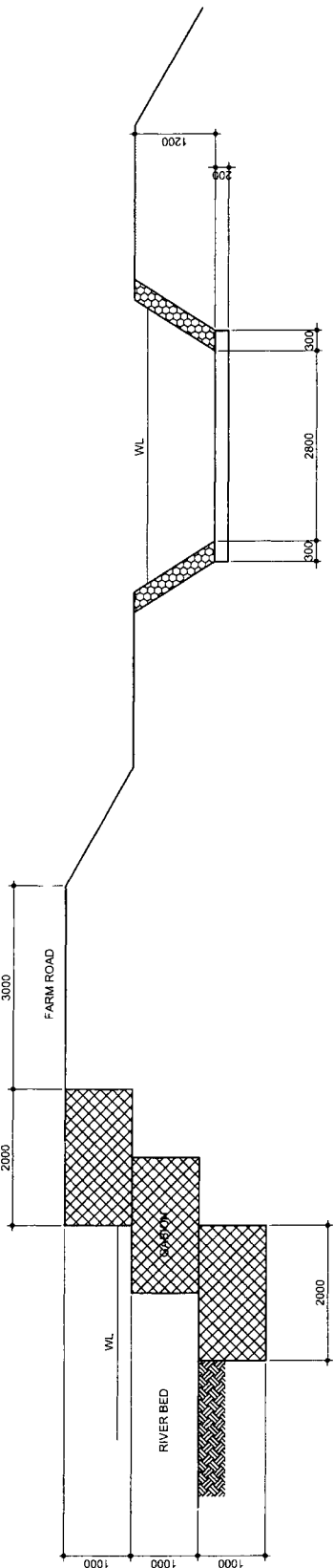
APP.6.3.2 Drawings

- (1) Drawing-1 for Lacro- I Irrigation System
- (2) Drawing-2 for Lacro- I Irrigation System
- (3) Drawing-1 for Lacro- II Irrigation System
- (4) Drawing-2 for Lacro- II Irrigation System
- (5) Drawing-3 for Lacro- II Irrigation System
- (6) Drawing-1 for Seical Irrigation System
- (7) Drawing-2 for Seical Irrigation System
- (8) Drawing-1 for Uatolari- I Irrigation System
- (9) Drawing-2 for Uatolari- I Irrigation System
- (10) Drawing-1 for Laleia-R Irrigation System
- (11) Drawing-2 for Laleia-R Irrigation System



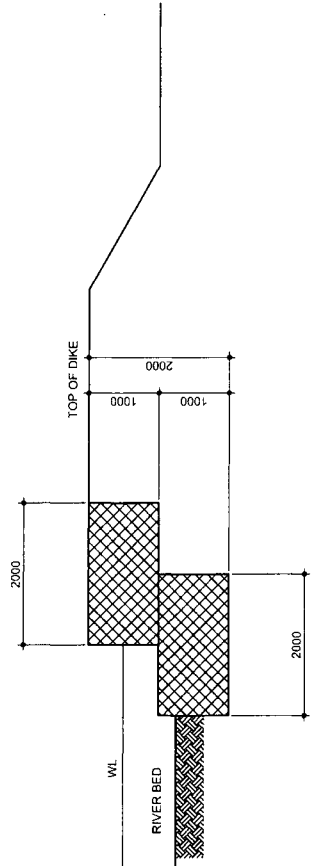
APP. 6.3.2 Drawings (1): Drawing-1 for Laclo-I Irrigation System

UNITED NATIONS TRANSITIONAL ADMINISTRATION IN EAST TIMOR (UNTAET)	HREE YEARS URGENT REHABILITATION PLAN OF IRRIGATION	Plan of Laclo-I Irrigation System	JAPAN INTERNATIONAL COOPERATION AGENCY PACIFIC CONSULTANTS INTERNATIONAL NIPPON KOEI CO., LTD. YACHIYO ENGINEERING CO., LTD.
		TITLE: MAY, 2000	

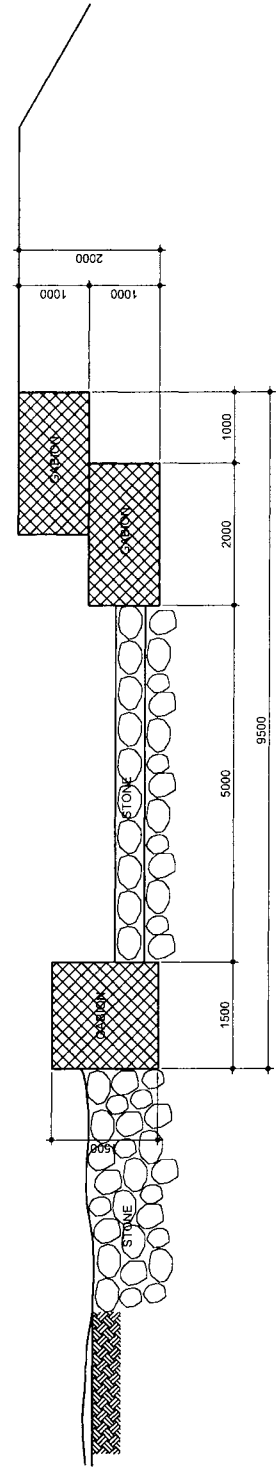
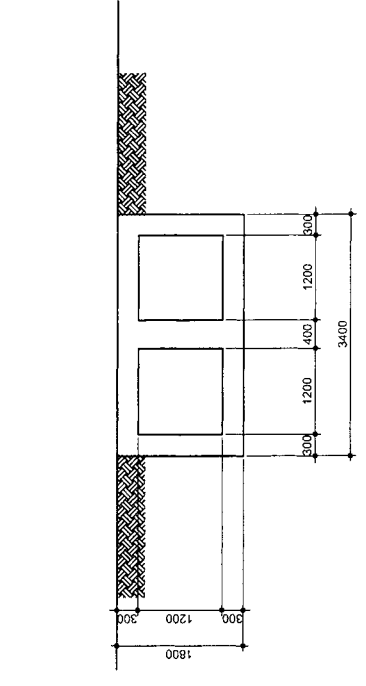


CONDUCTING CANAL

PROTECTION DIKE (TYPE-I)



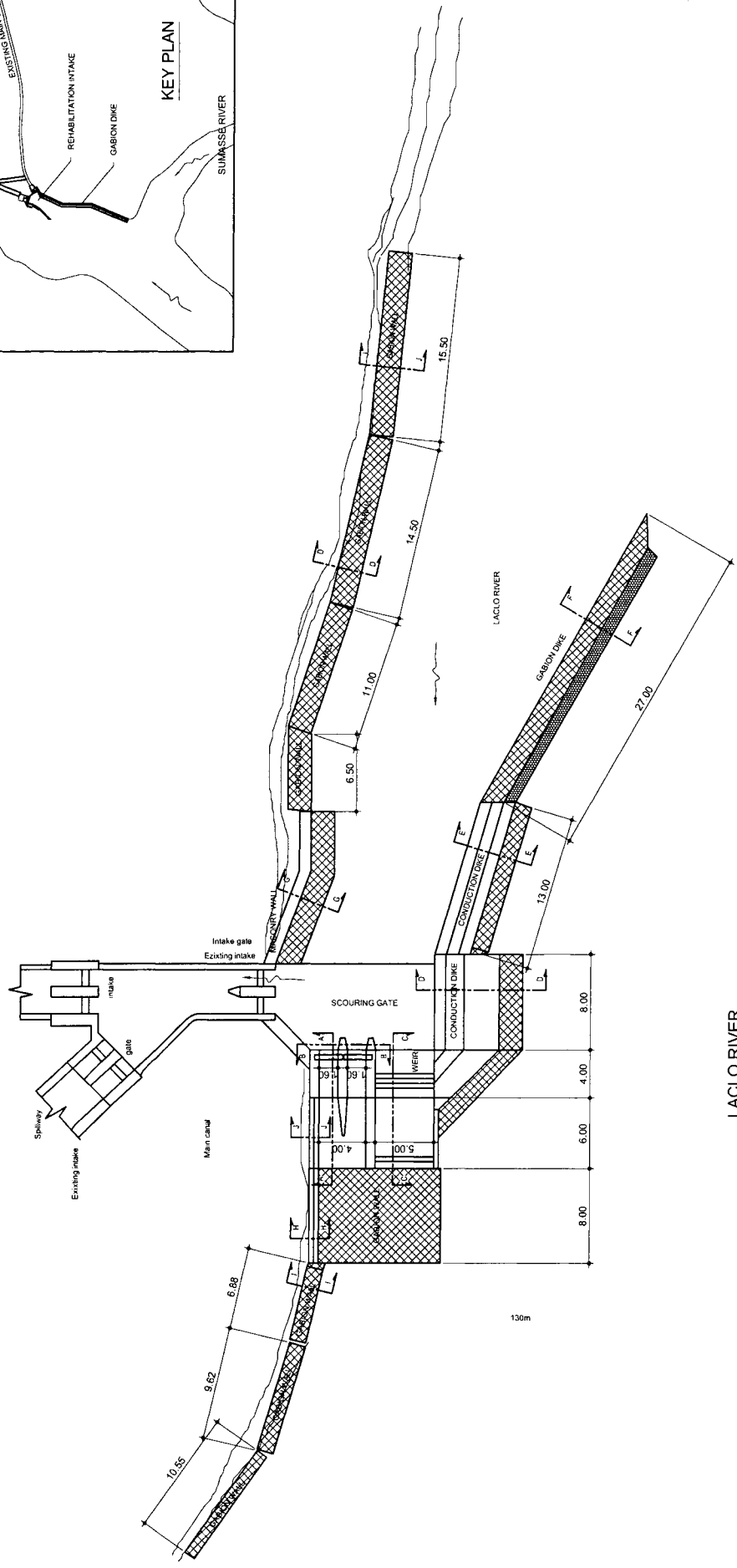
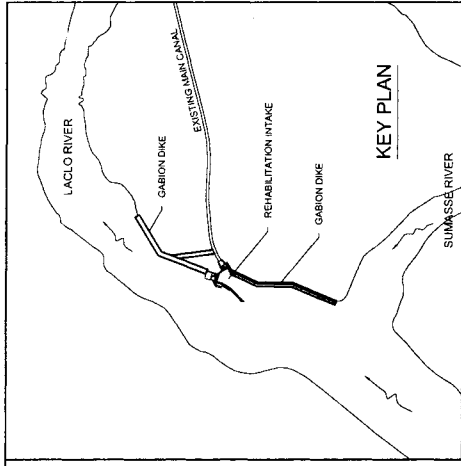
PROTECTION DIKE (TYPE-II)



FREE INTAKE

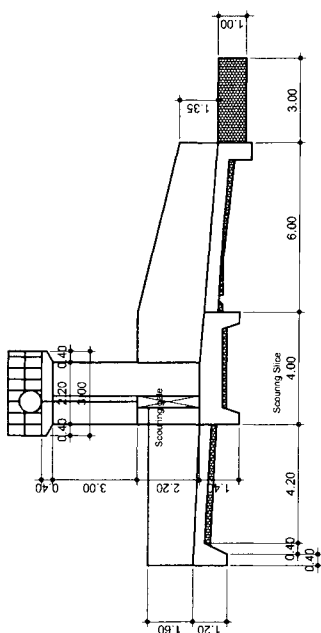
APP.6.3.2 Drawings (2): Drawing - 2 for Lacro-I Irrigation System

UNITED NATIONS TRANSITIONAL ADMINISTRATION IN EAST TIMOR (UNTAET)	3 YEARS URGENT REHABILITATION PLAN OF IRRIGATION	TITLE:	RELATED STRUCTURES PLAN OF LACLO - I IRRIGATION SYSTEM	JAPAN INTERNATIONAL COOPERATION AGENCY PACIFIC CONSULTANTS INTERNATIONAL NIPPON KOEI CO., LTD YACHIYO ENGINEERING CO., LTD.
			JULY, 2000	

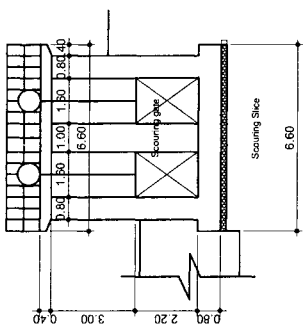


APP.6.3.2 Drawings (3): Drawing - 1 for Laclo-II Irrigation System

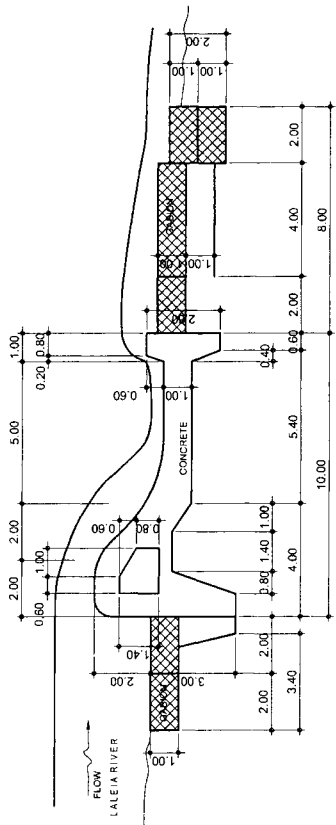
UNITED NATIONS TRANSITIONAL ADMINISTRATION IN EAST TIMOR (UNTAET)	TITLE: PLAN OF LACLO - II IRRIGATION SYSTEM		JAPAN INTERNATIONAL COOPERATION AGENCY PACIFIC CONSULTANTS INTERNATIONAL NIPPON KOEI CO., LTD YACHIYO ENGINEERING CO., LTD.
	3 YEARS URGENT REHABILITATION PLAN OF IRRIGATION	JULY, 2000	DRAWING NO. 1



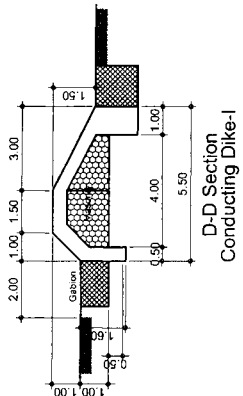
A-A Section
(Intake Gate)



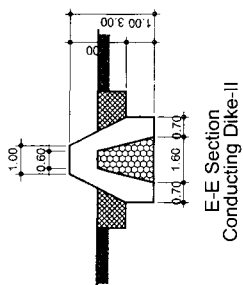
B-B Section
(Scouring Gate)



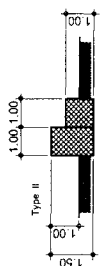
C-C Section
Intake Dam Section



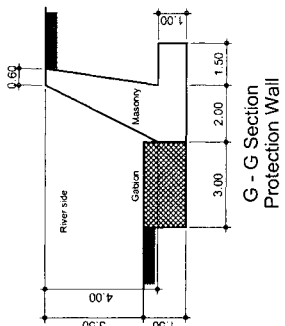
D-D Section
Conducting Dike-I



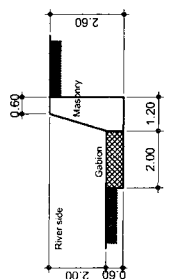
E-E Section
Conducting Dike-II



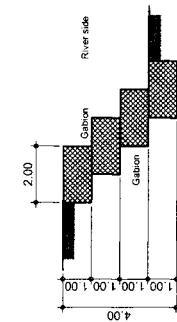
F-F Section
Conducting Dike-III



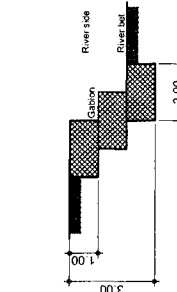
G-G Section
Protection Wall



H-H Section
Protection Wall



I-I Section
Protection Gabion Dike



J-J Section
Protection Gabion Dike

APP.6.3.2 Drawings (4): Drawing - 2 for Lacro-II Irrigation System

UNITED NATIONS TRANSITIONAL
ADMINISTRATION IN EAST TIMOR
(UNTAET)

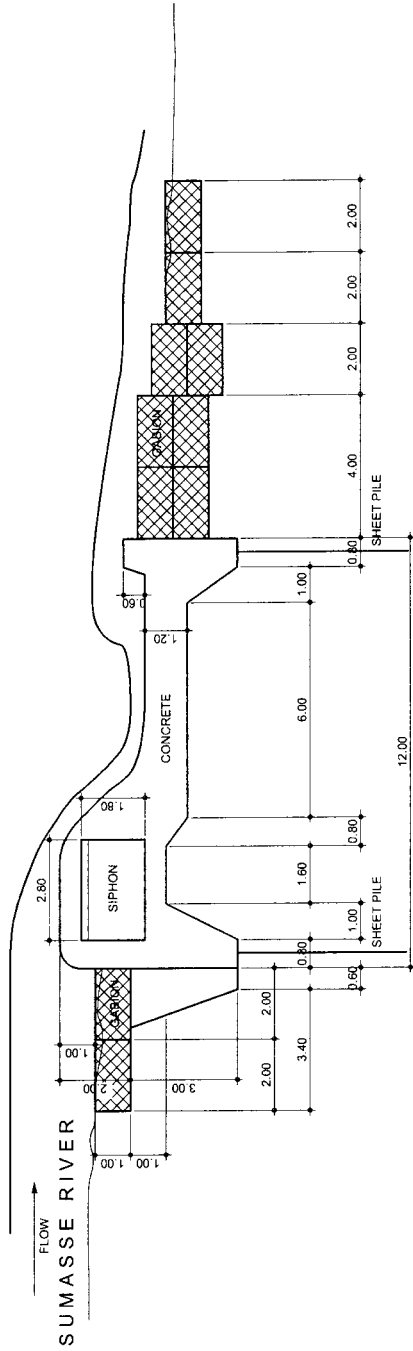
3 YEARS URGENT REHABILITATION
PLAN OF IRRIGATION

TITLE:
PLAN OF RELATED STRUCTURES
PLAN OF LACLO - II IRRIGATION SYSTEM

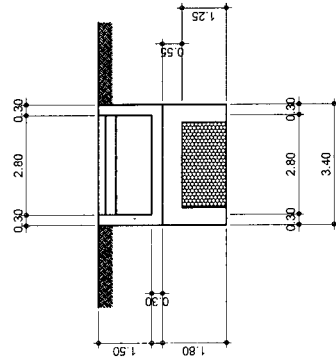
JAPAN INTERNATIONAL COOPERATION AGENCY
PACIFIC CONSULTANTS INTERNATIONAL
NIPPON KOEI CO., LTD
YACHIYO ENGINEERING CO., LTD.

JULY, 2000

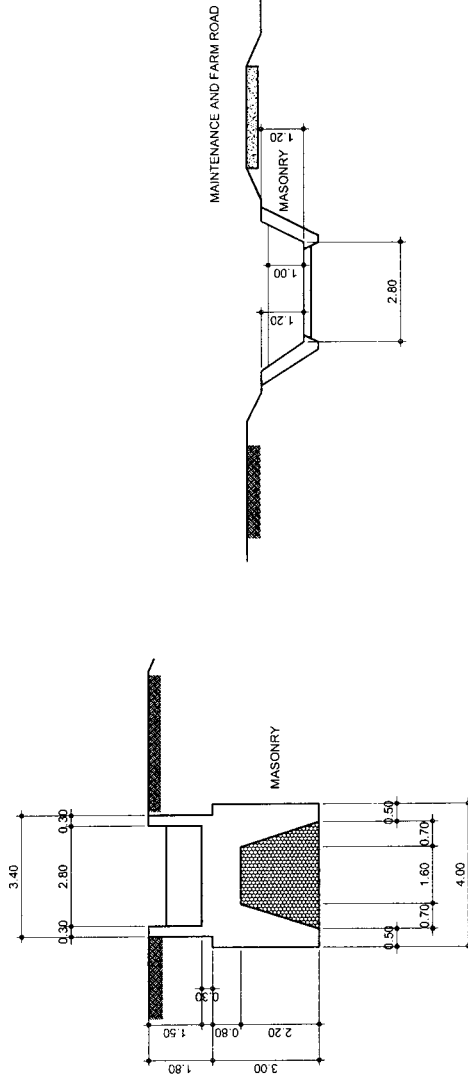
DRAWING NO. 2



Sumasse Siphon



Culvert Canal

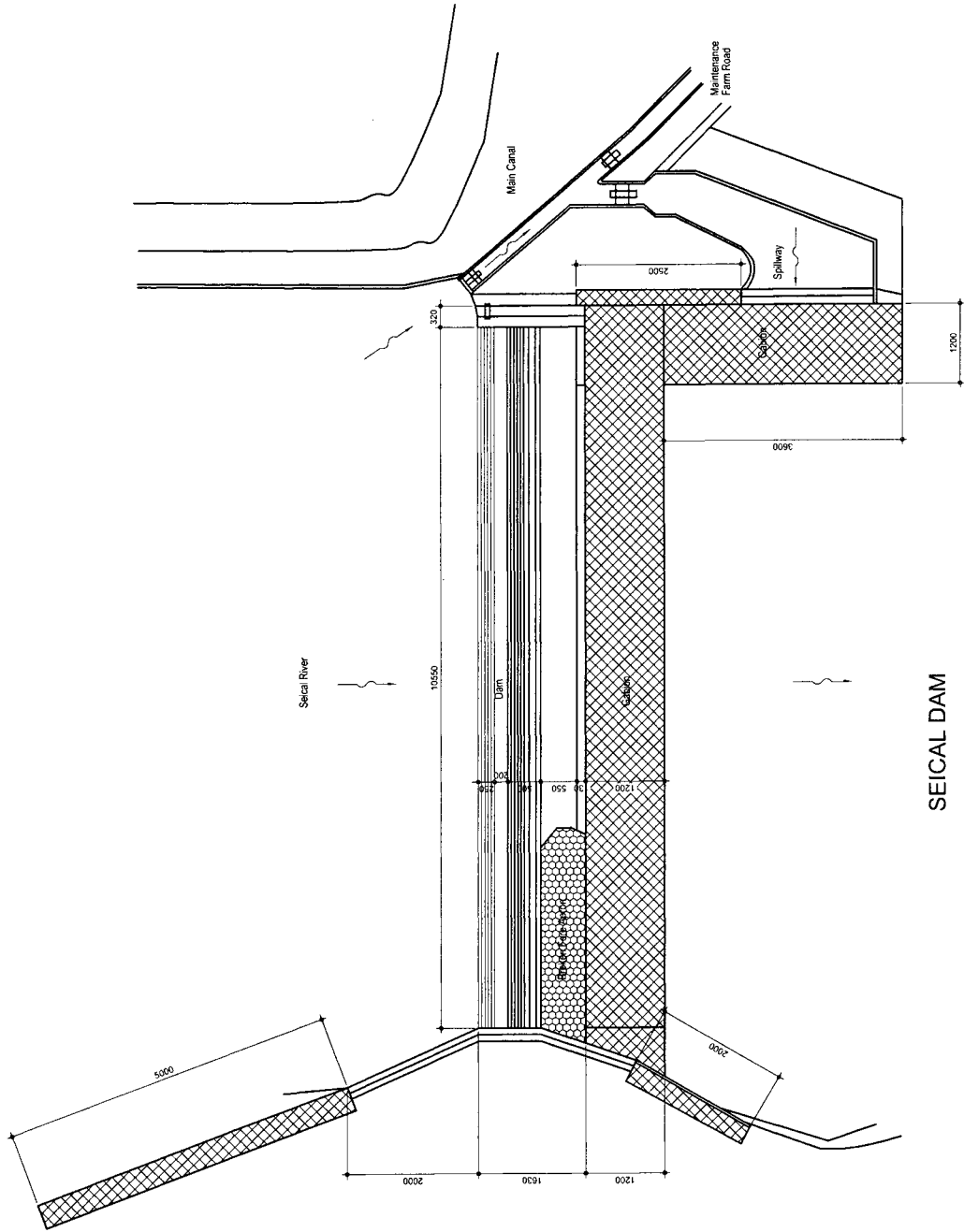


Main Canal

Main Canal

APP.6.3.2 Drawings (5): Drawing - 3 for Lacro-II Irrigation System

UNITED NATIONS TRANSITIONAL ADMINISTRATION IN EAST TIMOR (UNTAET)	3 YEARS URGENT REHABILITATION PLAN OF IRRIGATION	TITLE: SUMASSE SIPHON AND CULVERT CANAL LACLO - II IRRIGATION SYSTEM JULY, 2000 DRAWING NO. 3	JAPAN INTERNATIONAL COOPERATION AGENCY PACIFIC CONSULTANTS INTERNATIONAL NIPPON KOEI CO., LTD YACHIYO ENGINEERING CO., LTD.
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APP.6.3.2 Drawings (6): Drawing - 1 for Seical Irrigation System

JAPAN INTERNATIONAL COOPERATION AGENCY
 PACIFIC CONSULTANTS INTERNATIONAL
 NIPPON KOEI CO., LTD
 YACHIYO ENGINEERING CO., LTD.

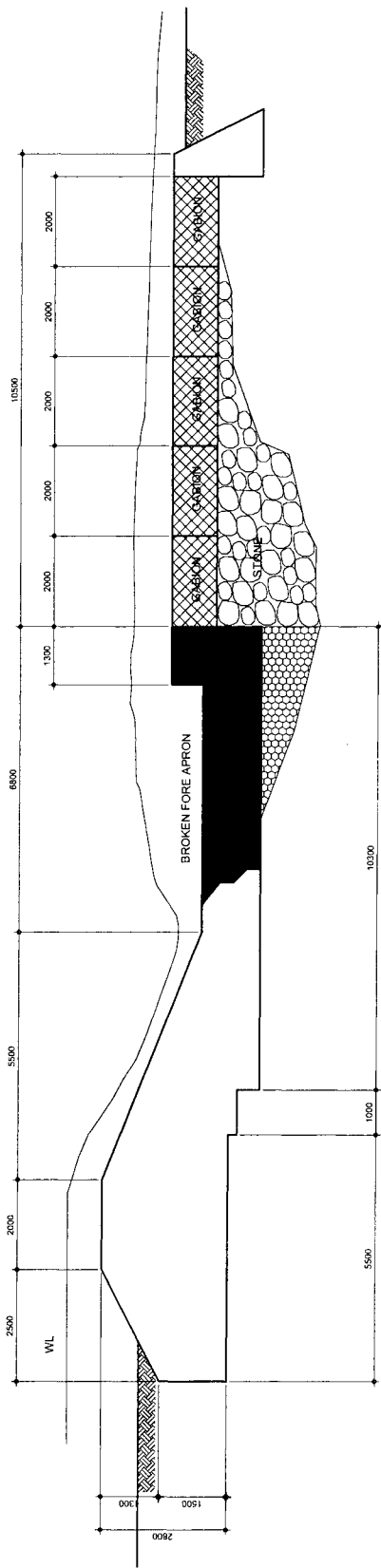
TITLE: PLAN OF SEICAL IRRIGATION SYSTEM

DRAWING NO. 1

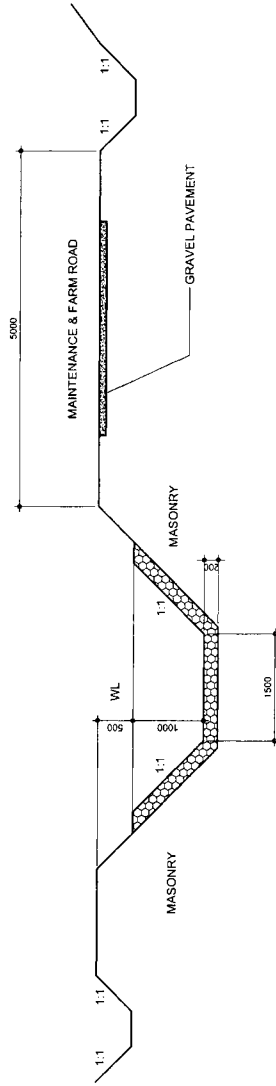
3 YEARS URGENT REHABILITATION
 PLAN OF IRRIGATION

UNITED NATIONS TRANSITIONAL
 ADMINISTRATION IN EAST TIMOR
 (UNTAET)

JULY, 2000



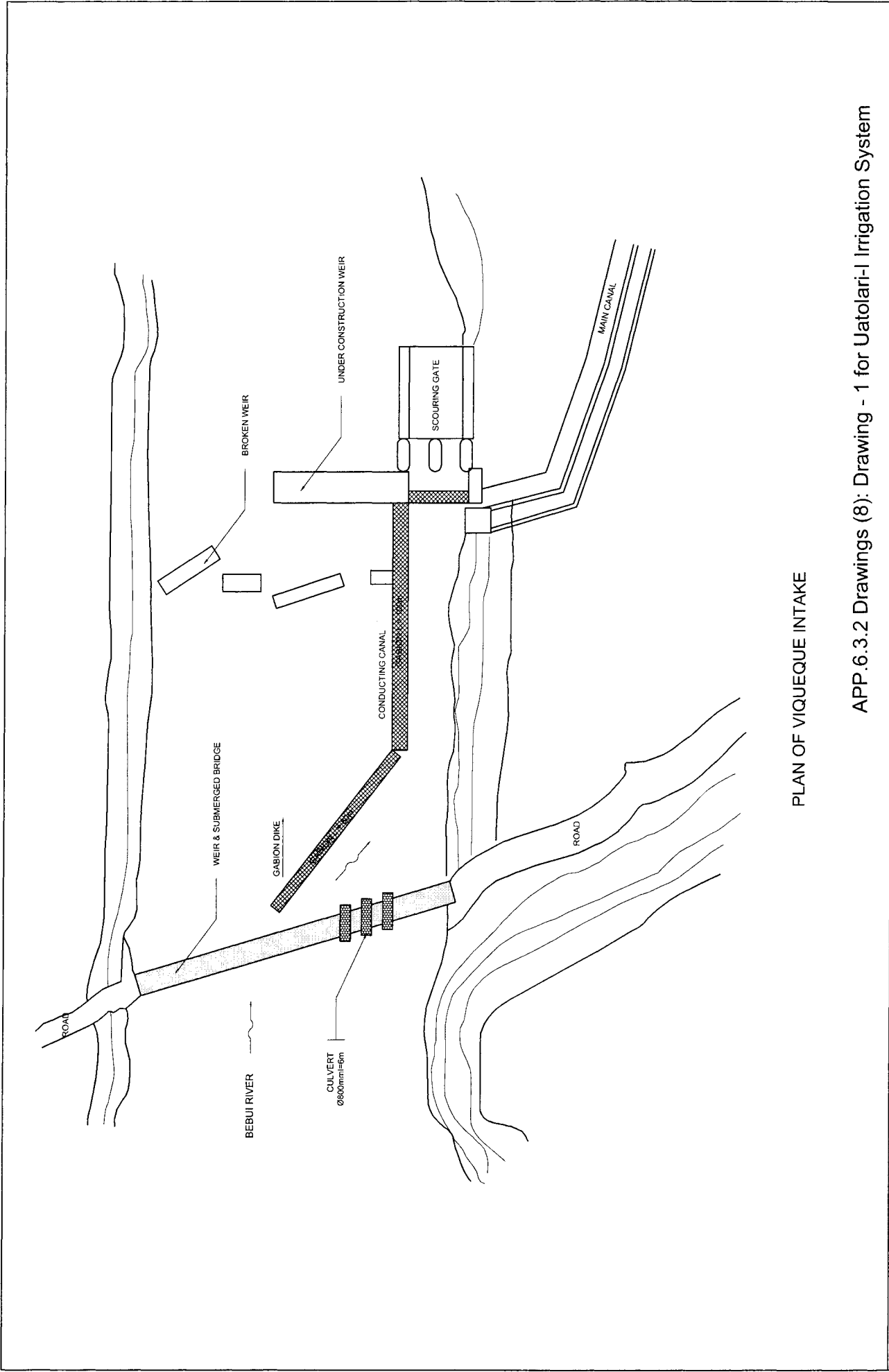
SEICAL DAM



STANDARD SECTION OF MAIN CANAL

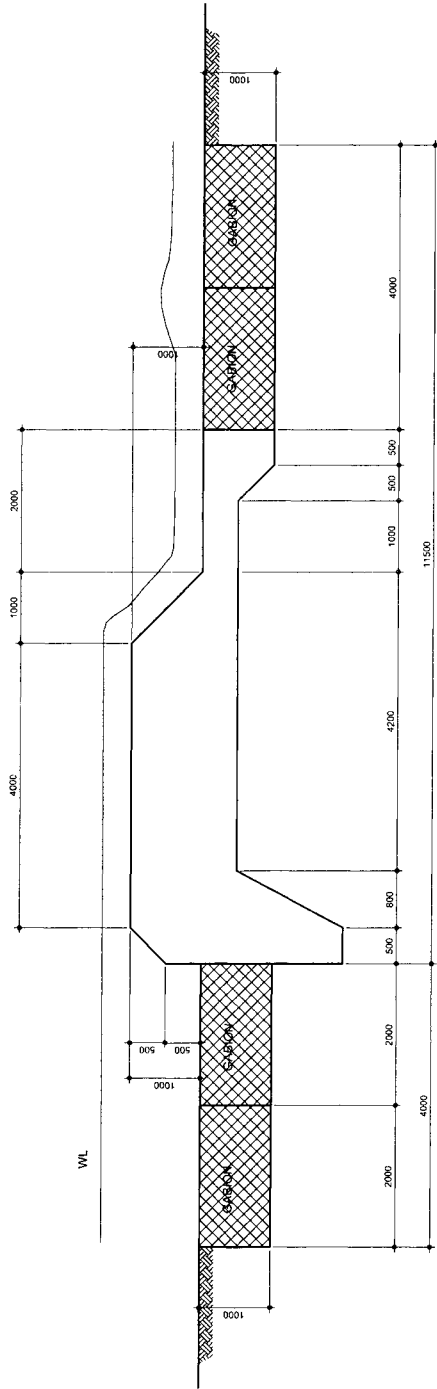
APP.6.3.2 Drawings (7): Drawing - 2 for Seical Irrigation System

UNITED NATIONS TRANSITIONAL ADMINISTRATION IN EAST TIMOR (UNTAET)	TITLE: DAM AND CANAL OF SEICAL IRRIGATION SYSTEM		JAPAN INTERNATIONAL COOPERATION AGENCY PACIFIC CONSULTANTS INTERNATIONAL NIPPON KOEI CO., LTD YACHIYO ENGINEERING CO., LTD.
	3 YEARS URGENT REHABILITATION PLAN OF IRRIGATION	JULY, 2000	

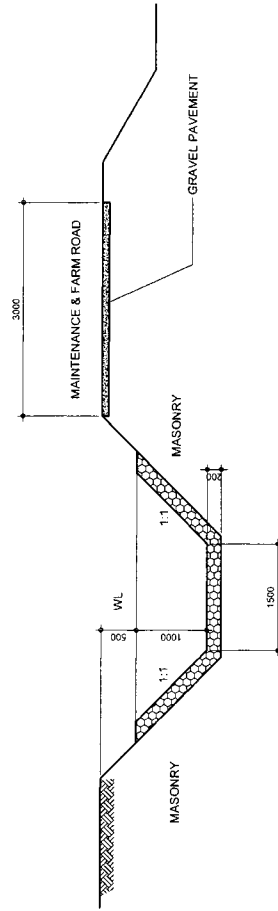


UNITED NATIONS TRANSITIONAL ADMINISTRATION IN EAST TIMOR (UNTAET)	3 YEARS URGENT REHABILITATION PLAN OF IRRIGATION		TITLE: PLAN OF UATOLARI - I IRRIGATION SYSTEM		JAPAN INTERNATIONAL COOPERATION AGENCY PACIFIC CONSULTANTS INTERNATIONAL NIPPON KOEI CO., LTD YACHIYO ENGINEERING CO., LTD	
			JULY, 2000		DRAWING NO. 1	

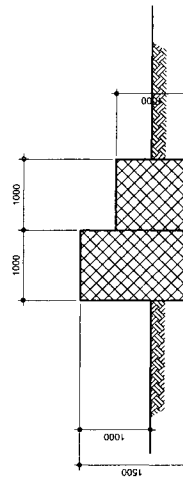
APP.6.3.2 Drawings (8): Drawing - 1 for Uatolari-Irrigation System



WEIR & SUBMERGED BRIDGE



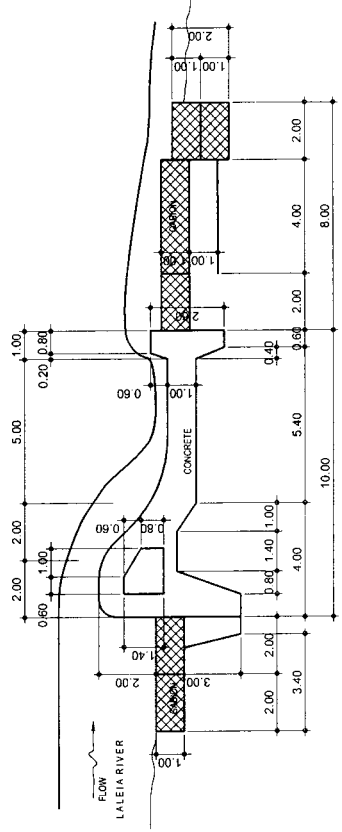
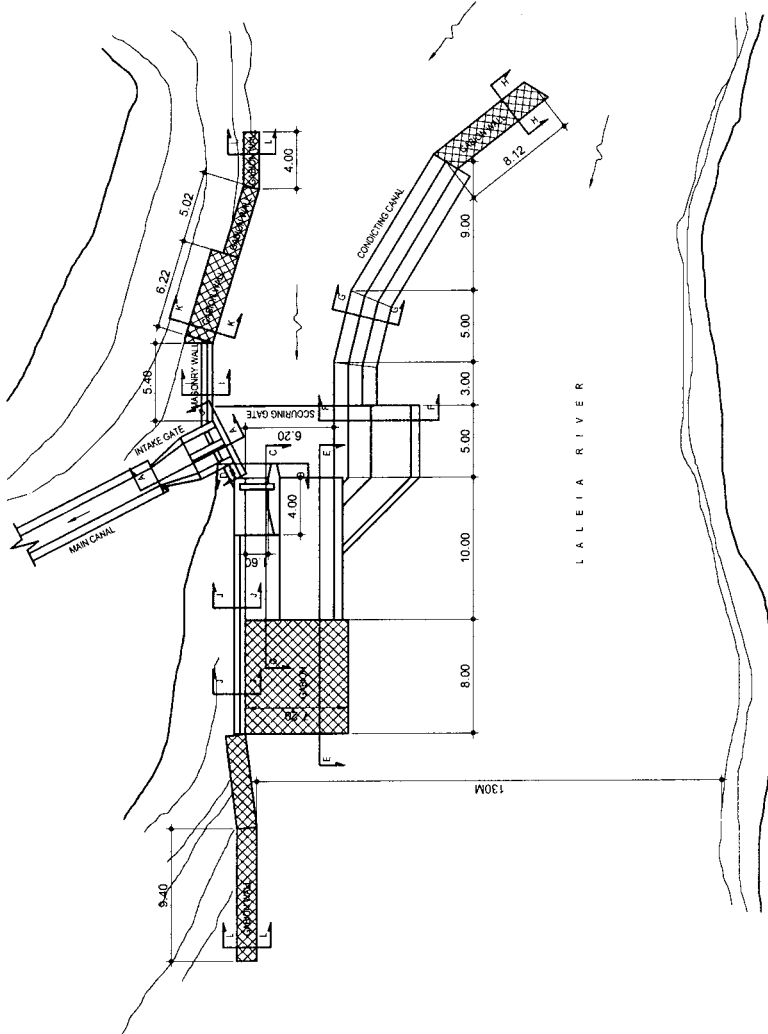
STANDARD SECTION OF MAIN CANAL



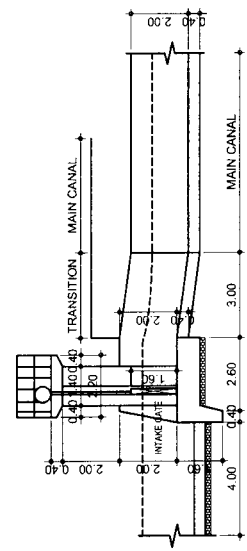
H - H SECTION
CONDUCTING DIKE

APP.6.3.2 Drawings (9): Drawing - 2 for Uatolari-I Irrigation System

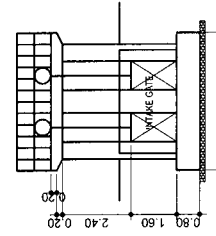
UNITED NATIONS TRANSITIONAL ADMINISTRATION IN EAST TIMOR (UNTAET)	3 YEARS URGENT REHABILITATION PLAN OF IRRIGATION		TITLE: INTAKE DAM AND CANAL UATOLARI - I IRRIGATION SYSTEM		JAPAN INTERNATIONAL COOPERATION AGENCY PACIFIC CONSULTANTS INTERNATIONAL NIPPON KOEI CO., LTD YACHIYO ENGINEERING CO., LTD.
	JULY, 2000		DRAWING NO. 2		



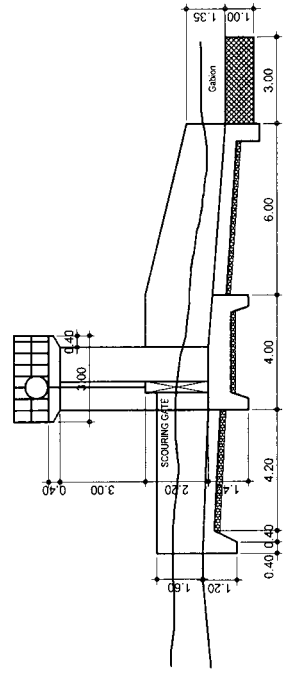
SECTION E-E
(Intake Dam Section)



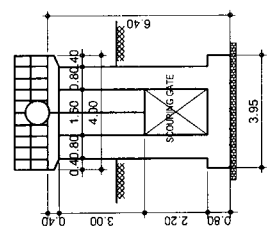
SECTION A-A
(Intake Gate)



SECTION B-B
(Intake Gate)



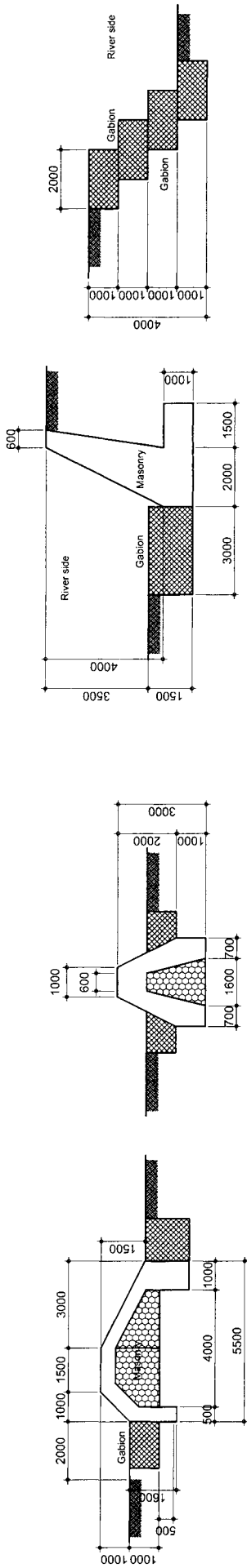
SECTION C-C
(Scouring Gate)



SECTION D-D
(Scouring Gate)

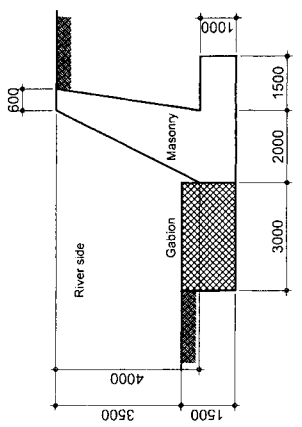
APP.6.3.2 Drawings (10): Drawing - 1 for Laleia-R Irrigation System

UNITED NATIONS TRANSITIONAL ADMINISTRATION IN EAST TIMOR (UNTAET)	3 YEARS URGENT REHABILITATION PLAN OF IRRIGATION	TITLE: PLAN OF LALEIA - R IRRIGATION SYSTEM JULY, 2000 DRAWING NO. 1	JAPAN INTERNATIONAL COOPERATION AGENCY PACIFIC CONSULTANTS INTERNATIONAL NIPPON KOEI CO., LTD YACHIYO ENGINEERING CO., LTD.
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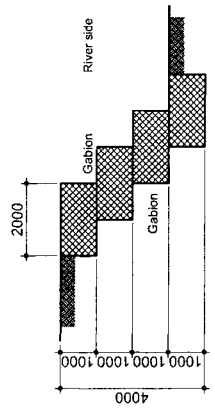


F-F Section
Conducting Dike-I

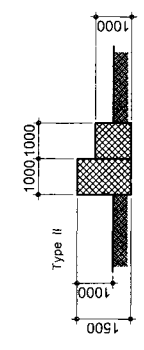
G-G Section
Conducting Dike-II



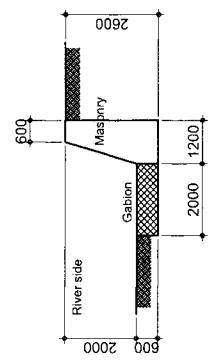
I - I Section
Protection Wal



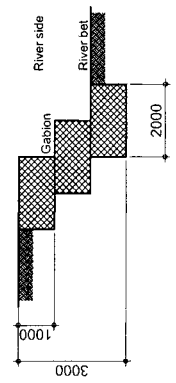
K - K Section
Protection Gabion Dike



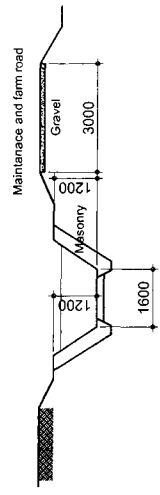
H-H Section
Conducting Dike-III



J - J Section
Protection Wal



L - L Section
Protection Gabion Dike



Main Canal

APP.6.3.2 Drawings (11): Drawing - 2 for Laleia-R Irrigation System

UNITED NATIONS TRANSITIONAL
ADMINISTRATION IN EAST TIMOR
(UNTAET)

3 YEARS URGENT REHABILITATION
PLAN OF IRRIGATION

TITLE: RELATED STRUCTURES PLAN OF
LALEIA - R IRRIGATION SYSTEM

JULY, 2000

DRAWING NO. 2

JAPAN INTERNATIONAL COOPERATION AGENCY
PACIFIC CONSULTANTS INTERNATIONAL
NIPPON KOEI CO., LTD
YACHIYO ENGINEERING CO., LTD.

Appendices for Chapter 6

APP.6.3.3

Operation and Maintenance Strengthening Project

- (1) Results of Questionnaire for Necessity Equipment of Agriculture(1/2)
- (2) Results of Questionnaire for Necessity Equipment of Agriculture(2/2)
- (3) Staff of Irrigation O/M Strengthening Station
- (4) List of Equipment for the 20 Irrigation System O/M Strengthening Project

APP. 6.3.3 Operation and Maintenance Strengthening Project

(1) Results of Questionnaire for Necessity Equipment of Agriculture Sector (1/2)

No.	Equipment	Baucau		Manatuto		Manufahi		Aileu		Ainaro	
		UNTAET	CNRT	UNTAET	CNRT	UNTAET	CNRT	UNTAET	CNRT	UNTAET	CNRT
1	Holding Power Shovel	0	1	0	0	0	1	0	0	0	0
2	Holding Back Hoe	0	0	0	0	0	1	0	0	0	0
3	Number of Old Rice Mill Plant	3	5	3	5	3	1	1	1	1	1
4	Number of Operating Rice Mill Pla	0	4	0	2	0	1	0	0	0	0
5	Request Equipment										
1)	Power shovel/Back hoe	H	2	H	1	H	1	H	2	H	2
2)	4 ton truck	H	2	M	1	M	2	H	4	M	2
3)	2 ton truck	H	7	M	2	L	2	M	4	M	2
4)	Hand tractor	H	20		50	N	0	H	15	M	4
5)	Portable pump	M	60	M	2	H	4	M	16	M	3
6)	Removable pump	M	20	M	2	M	2	M	4	M	2
7)	Rice mill	H	6	H	2	H	2	H	8	H	6
8)	Chain saw	M	12	M	4	H	2	N	0	M	4
9)	Saw mill machine	H	6	M	2	H	5	M	2	L	1
10)	Generator	M		H	4	H	3	H	5	H	4
	Others										
1)	4WD pickup truck	H	2								
2)	Power thresher	H	25	H	4	H	?	H	50		
3)	Munual thresher	H	50								
4)	Hand sprayer	H	120	H	2	H	?				
5)	Corn mill			H	?						
6)	Big tractor							H	20		
	Coffee mill machine							H	60		

APP. 6.3.3 Operation and Maintenance Strengthening Project

(2) Results of Questionnaire for Necessity Equipment of Agriculture Sector (2/2)

No.	Equipment	Liquica		Manatuto		Manufahi		Aileu		Ainaro			
		UNTAET	CNRT	UNTAET	CNRT	UNTAET	CNRT	UNTAET	CNRT	UNTAET	CNRT		
1	Holding Power Shovel	0	1	0	0	0	1	0	0		0		
2	Holding Back Hoe	0	0	0	0	0	1	0	0		0		
	Tractor	0	1	0	0	0	0	0	0	0	0		
3	Number of Old Rice Mill Plant	1	5	3	5	3	1	1	1	1	1		
4	Number of Operating Rice Mill Plant	0	4	0	2	0	1	0	0		0		
5		Equipment requested											
1)	Power shovel/Back hoe	H	-	H	1	H	1	H	2	H	1	H	2
2)	4 ton truck	M	-	M	2	H	1	M	2	H	4	H	2
3)	2 ton truck	H	-	M	2	H	5	L	2	M	4	H	4
4)	Hand tractor	H	-	-	5	H	50	N	0	H	15	M	4
5)	Portable pump	M	-	-	2	H	50	H	4	M	3	L	2
6)	Removable pump	M	-	-	2	H	5	M	2	M	4	M	2
7)	Rice mill	H	-	H	2	H	10	H	2	H	8	H	2
8)	Chain saw	H	-	M	4	H	5	H	2	N	0	M	4
9)	Saw mill machine	M	-	M	2	H	5	M	2	L	1	M	2
10)	Generator	M	-	H	4	H	3	H	5	H	4	M	4
	Others												
1)	4WD pickup truck	H	2										
2)	Power thresher	H	25	H	4	H	?	H	?	H	50		
3)	Munual thresher	H	50										
4)	Hand sprayer	H	120	H	2	H	?	H	?				
5)	Corn mill					H	?						
6)	Big tractor									H	20		
	Coffee mill machine									H	60		

**APP. 6.3.3 Operation and Maintenance Strengthening Project
(3) Staff of Irrigation O/M Strengthening Station**

No.	O/M Station	District	Manager	Clark	Driver for Mobile Workshop	Operator for Excavator	Driver for 4 ton truck with crane	Driver for Pickup	Operator for rice mill	Mechanics	Mechanics Assistants	Total
1	Dili Workshop	Dili	1	1	1	0	0	1	0	1	2	7
2	Baucau O/M Station	Baucau	1	1	0	1	1	1	1	0	2	8
3	Uatolari O/M Station	Viqueque	1	1	0	1	1	1	1	0	2	8
4	Oedubu O/M Station	Viqueque	1	1	0	1	1	1	1	0	2	8
5	Manatuto O/M Station	Manatuto	1	1	0	1	1	1	1	0	2	8
6	Laleia O/M Station	Manatuto	1	1	0	1	1	1	1	0	2	8
7	Natarbora O/M Station	Manatuto	1	1	0	1	1	1	1	0	2	8
8	Gleno O/M Station	Ermera	1	1	0	1	1	1	1	0	2	8
9	Laohata O/M Station	Liquica	1	1	0	1	1	1	1	0	2	8
10	Same O/M Station	Manufahi	1	1	0	1	1	1	1	0	2	8
	Total		10	10	1	9	9	10	9	1	20	79

APP. 6.3.3 Operation and Maintenance Strengthening Project

(4) List of Equipment for the 20 Irrigation System O/M Strengthening Project

No.	Equipment	Specification	FOB Unit Price (US\$)	Q'ty	FOB Price (US\$)	Marine Insurance cost	CIF Price (US\$)	Remarks
1	Equipment for workshop	Engine welder generator, Cylinder repair stand with checker, Lathe machine, Gantry crane, Service & measuring tools, etc.	210,000	1	210,000	10,000	220,000	including spare parts (5% of equipment)
2	Mobile workshop	Generator welder, Gas cutting equipment, Lubricator, etc.	180,000	1	180,000	10,000	190,000	including spare parts (5% of equipment)
3	Excavator	0.4m ³ basket	143,000	5	715,000	35,000	750,000	including spare parts (5% of equipment)
4	Brush cutter	4 teeth, 255mmDIA	1,000	16	16,000	1,200	17,200	including spare parts (5% of equipment)
5	4 ton cargo truck with crane	4 wheel drive, 2 ton crane	74,000	9	666,000	80,000	746,000	including spare parts (5% of equipment)
6	Pick-up truck	4 wheel drive, Double cab	25,000	10	250,000	30,000	280,000	including spare parts (5% of equipment)
7	Removable pump	6 inch, 5,000 l/min	45,000	9	405,000	25,000	430,000	including spare parts (5% of equipment)
8	Rice mill	650kg/hr	48,000	19	912,000	60,000	972,000	including spare parts (5% of equipment)
9	Power thresher		3,000	29	87,000	15,000	102,000	including spare parts (5% of equipment)
10	Diesel oil	200 l/drum	220	500	110,000	21,000	131,000	procurement in East Timor
					3,551,000	287,200	3,838,200	

Appendices for Chapter 6

APP.6.3.4 Cost Estimate

- (1) Lacro- I Urgent Irrigation Rehabilitation Project
- (2) Lacro- II Urgent Irrigation Rehabilitation Project
- (3) Seical Urgent Irrigation Rehabilitation Project
- (4) Uatolari- I Urgent Irrigation Rehabilitation Project
- (5) Laleia-R Urgent Irrigation Rehabilitation Project
- (6) 20 Irrigation Systems O/M strengthening Project

APP. 6.3.4 Cost Estimate (1)
(Laclo-I Irrigation System)

Item	Q'ty	Unit	Unit price (US\$)	Amount (US\$)	Remarks
Excavation	3,180	m3	27.00	85,860.00	
Embankment	7,280	m3	12.00	87,360.00	
Gabion	5,380	m2	60.00	322,800.00	
Erosion protect sheet	7,340	m2	8.00	58,720.00	
Total				554,740.00	
(2) Channel work					
Excavation	2,530	m3	27.00	68,310.00	
Soil disposal	2,530	m3	15.00	37,950.00	
Wet masonry	330	m3	120.00	39,600.00	
Concrete	320	m3	200.00	64,000.00	
Form work	180	m2	20.00	3,600.00	
Total				213,460.00	
(3) Road crossing					
Excavation	1,660	m3	27.00	44,820.00	
Backfilling	1,010	m3	12.00	12,120.00	
Soil disposal	660	m3	15.00	9,900.00	
Level concrete	35	m3	150.00	5,250.00	
Form work	990	m2	20.00	19,800.00	
Concrete	295	m3	200.00	59,000.00	
Re-bar	30	ton	500.00	15,000.00	
Base gravel	70	m3	20.00	1,400.00	
Asphalt pavement	120	m2	50.00	6,000.00	
Sub-Base	120	m2	20.00	2,400.00	
Total				175,690.00	
(4) Temporary work					
Construction road	1	lot	20,000.00	20,000.00	
Water control	1	lot	30,000.00	30,000.00	
Total				50,000.00	
(5) Cleaning for Exist channel	9,200	man·day	3.21	29,532.00	
(6) maintenance road					
Gravel	1,800	m3	40.00	72,000.00	
Embankment	12,000	m3	12.00	144,000.00	
Total				216,000.00	
(7) Repair for main canal & structure	1	lot	329,000.00	329,000.00	
(8) Unit house for union	1	lot	60,000.00	60,000.00	
(9) Provision equipment					
Wheel backhoe	1	lot	110,000.00	110,000.00	
Spare parts, fuel, etc	1	lot	33,000.00	33,000.00	
Total				143,000.00	
Direct cost total				1,771,422.00	¥194,856,420
(10) Transportation	1,510	F/T	200.00	302,000.00	
(11) Man power cost					
Japanese Civil engineer	5.0	M/M	8,400.00	42,000.00	
Japanese Civil engineer	1.5	M/M	6,800.00	10,200.00	
Japanese technician	4	M/M	6,500.00	26,000.00	
Local engineer	8	M/M	730.00	5,840.00	
Total				84,040.00	
(12) General Temporary Cost					
Site office	1	lot	4,000.00	4,000.00	
Utilities	1	lot	5,000.00	5,000.00	
Car	2	pcs	20,000.00	40,000.00	
Storage yard	1	lot	2,000.00	2,000.00	
Total				51,000.00	
(13) Site expense				331,269.30	15% of amount
(14) General expense				110,423.10	5% of amount
Grand total				2,650,000.00	¥291,500,000

APP. 6.3.4 Cost Estimate (2)
(Laclo-II Irrigation System)

Item	Q'ty	unit	unit price (US\$)	Amount (US\$)	Remarks	
(1) Intake	Excavation	267.9	m3	34.55	9,255.95	
	Backfilling	130.5	m3	15.07	1,966.64	
	Soil disposal	137.4	m3	19.50	2,679.30	
	Level Concrete	4	m3	195.00	760.50	
	Concrete	83.34	m3	260.00	21,668.40	
	Form work	201.9	m2	26.00	5,249.40	
	Re-bar	8.33	ton	650.00	5,414.50	
	Gate 1400x1800	2	pcs	130,000.00	260,000.00	
	Steel screen	2	pcs	32,500.00	65,000.00	
				371,994.68		
(2) Concrete protection	Excavation	1338.5	m3	34.55	46,245.18	
	Backfilling	755.5	m3	15.07	11,385.39	
	Soil disposal	583	m3	19.50	11,368.50	
	Concrete	433	m3	260.00	112,580.00	
	Form work	470.65	m2	26.00	12,236.90	
	Gabion	150	m2	77.98	11,697.00	
	Erosion protect sheet	250	m2	10.40	2,600.00	
				208,112.96		
(3) Gabion protection	Excavation	1105	m3	34.55	38,177.75	
	Backfilling	125	m3	15.07	1,883.75	
	Soil disposal	980	m3	19.50	19,110.00	
	Embankment	1575	m3	15.07	23,735.25	
	Gabion	1860	m2	77.98	145,042.80	
	Erosion protect sheet	2360	m2	10.40	24,544.00	
				252,493.55		
(4) Wet masonry channel work	Excavation	5397	m3	34.55	186,466.35	
	Soil disposal	5397	m3	19.50	105,241.50	
	Wet masonry	1125.6	m3	130.00	146,328.00	
	Concrete	980	m3	260.00	254,800.00	
	Form work	560	m2	26.00	14,560.00	
				707,395.85		
(5) Siphon work	Excavation	4394	m3	34.55	151,805.79	
	Backfilling	430	m3	15.07	6,480.10	
	Soil disposal	3964	m3	19.50	77,294.10	
	Demolishing of exist	1500	m3	45.50	68,250.00	
	Form work	1900	m2	26.00	49,400.00	
	Concrete	2744	m3	260.00	713,440.00	
	Gabion	2000	m2	77.98	155,960.00	
	Erosion protect sheet	2000	m2	10.40	20,800.00	
	Re-bar	44	ton	650.00	28,600.00	
	Sheet pile III L=10m	325	ton	1,950.00	633,750.00	
					1,905,779.99	
	(6) Protection dike	Excavation	1100	m3	34.55	38,005.00
Backfilling		100	m3	15.07	1,507.00	
Soil disposal		1000	m3	19.50	19,500.00	
Gabion		1200	m2	77.98	93,576.00	
Erosion protect sheet		1600	m2	10.40	16,640.00	
				169,228.00		
(7) Concrete channel work L=40m (river crossing)	Excavation	2073.6	m3	34.55	71,642.88	
	Backfilling	1348.8	m3	15.07	20,326.42	
	Soil disposal	724.8	m3	19.50	14,133.60	
	Form work	504	m2	26.00	13,104.00	
	Concrete	354.4	m3	260.00	92,144.00	
	Wet masonry	202.4	m3	130.00	26,312.00	
	Re-bar	2.33	ton	650.00	1,513.98	
					239,176.88	
(8) Concrete channel work L=105m	Excavation	3402	m3	34.55	117,539.10	
	Backfilling	2116.8	m3	15.07	31,900.18	
	Soil disposal	1285.2	m3	19.50	25,061.40	
	Demolishing of exist	1000	m3	45.50	45,500.00	
	Form work	1071	m2	26.00	27,846.00	
	Concrete	529.2	m3	260.00	137,592.00	
	Re-bar	6.11	ton	650.00	3,974.20	
					389,412.87	
(9) Temporary work	Road for Construction	1	lot	13,520.00	13,520.00	
	Embankment	3,600	m3	15.07	54,252.00	
	Re-embankment	3,600	m3	15.07	54,252.00	
	Sand bag	25,000	pcs	1.30	32,500.00	
	Water Control	1	lot	65,000.00	65,000.00	
				219,524.00		
	Direct cost total			4,463,118.78	¥490,943,066	
(10) General expense				468,627.47		
	Grand total			4,931,746.25	¥542,492,088	

APP.6.3.4 Cost Estimate (3)
(Seical Irrigation System)

Item		Q'ty	Unit	Unit price (US\$)	Amount (US\$)	Remarks
(1) Apron part	Demolishing of exist	200	m3	30.00	6,000.00	
	Wet masonry	75	m3	100.00	7,500.00	
	Form work	75	m2	20.00	1,500.00	
	Concrete	130	m3	200.00	26,000.00	
	Erosion protect sheet	75	m2	8.00	600.00	
	total					41,600.00
(2) Retaining wall work	Excavation	130	m3	27.00	3,510.00	
	Backfilling	240	m3	12.00	2,880.00	
	Form work	200	m2	20.00	4,000.00	
	Concrete	115	m3	200.00	23,000.00	
	Wet masonry	140	m3	100.00	14,000.00	
	Scaffolding	270	m2	10.00	2,700.00	
total					50,090.00	
(3) River bed protection	Backfilling	930	m3	12.00	11,160.00	
	Gabion	1,850	m2	60.00	111,000.00	
	Erosion protect sheet	2,160	m2	8.00	17,280.00	
	total					139,440.00
(4) Cut-off for gabion	Excavation	1,820	m3	27.00	49,140.00	
	Backfilling	1,460	m3	12.00	17,520.00	
	Level Concrete	30	m3	150.00	4,500.00	
	Form work	690	m2	20.00	13,800.00	
	Wet masonry	340	m3	100.00	34,000.00	
	Scaffolding	690	m2	10.00	6,900.00	
	total					125,860.00
(5) Temporary work	Embankment	940	m3	12.00	11,280.00	
	Re-embankment	940	m3	12.00	11,280.00	
	Sand bag	25,000	pcs	1.00	25,000.00	
	Water control	1	lot	30,000.00	30,000.00	
	total					77,560.00
(6) Cleaning for Exist main channel	Man power	6,000	man·day	3.20	19,200.00	
(7) maintenance road	Gravel	2,700	m3	40.00	108,000.00	
(8) Repair for main canal & structure		1	lot	103,000.00	103,000.00	
(9) Unit house for union		1	lot	60,000.00	60,000.00	
(10) Provision equipment	Wheel backhoe	1	lot	110,000.00	110,000.00	
	Spare parts, fuel, etc	1	lot	33,000.00	33,000.00	
	total					143,000.00
Direct cost total					867,750.00	
(11) Transportation		690	F/T	220.00	151,800.00	
(12) Man power cost	Japanese Civil engineer	4	M/M	8,400.00	33,600.00	
	Japanese Civil engineer	9	M/M	6,800.00	61,200.00	
	Japanese technician	8	M/M	6,500.00	52,000.00	
	Japanese Administrator	4	M/M	5,600.00	22,400.00	
	Local engineer	16	M/M	730.00	11,680.00	
	Total					180,880.00
(13) General Temporary Cost	Site office	1	lot	4,000.00	4,000.00	
	Utilities	1	lot	5,000.00	5,000.00	
	Car	2	pcs	20,000.00	40,000.00	
	Storage yard	1	lot	1,000.00	1,000.00	
Total					50,000.00	
(14) Site expense					187,564.50	15% of amount
(15) General expense					62,521.50	5% of amount
Grand total					1,500,000	¥165,000,000

APP. 6.3.4 Cost Estimate (4)
(Uatolari-I Irrigation System)

Item		Q'ty	Unit	Unit price (US\$)	Amount (US\$)	Remarks
(1) Weir & submersible bridge	Excavation	960	m3	27.00	25,920.00	
	Backfilling	60	m3	12.00	720.00	
	Soil disposal	900	m3	15.00	13,500.00	
	Concrete	375	m3	220.00	82,500.00	
	Wet masonry	640	m3	120.00	76,800.00	
	Form work	570	m2	20.00	11,400.00	
	Embankment	300	m3	12.00	3,600.00	
	Re-bar mesh	455	m2	45.00	20,475.00	
	Steel colgate pipe ϕ 800	33	m	250.00	8,250.00	
	total				243,165.00	
(2) Intake channel	Excavation	320	m3	27.00	8,640.00	
	Backfilling	140	m3	12.00	1,680.00	
	Soil disposal	180	m3	15.00	2,700.00	
	Concrete	150	m3	220.00	33,000.00	
	Gabion	540	m2	60.00	32,400.00	
	Level concrete	50	m3	150.00	7,500.00	
	Base gravel	100	m3	20.00	2,000.00	
	Form work	595	m2	20.00	11,900.00	
	Erosion protect sheet	480	m2	8.00	3,840.00	
	Re-bar	10	ton	500.00	5,100.00	
	total				108,760.00	
	(3) River bed protection	Excavation	1,380	m3	27.00	37,260.00
Backfilling		180	m3	12.00	2,160.00	
Soil disposal		1,200	m3	15.00	18,000.00	
Gabion		1,200	m2	60.00	72,000.00	
Erosion protect sheet		1,400	m2	8.00	11,200.00	
total				140,620.00		
(4) Temporary work	Embankment	750	m3	12.00	9,000.00	
	Re-embankment	750	m3	12.00	9,000.00	
	Sand bag	20,000	pcs	1.00	20,000.00	
	Water control	1	lot	30,000.00	30,000.00	
total				68,000.00		
(5) Cleaning for Exist main channel	Man power	9,000	man·day	3.21	28,890.00	
(6) maintenance road	Gravel	780	m3	40.00	31,200.00	
	Embankment	10,400	m3	12.00	124,800.00	
total				156,000.00		
(7) Repair for main canal & structure		1	lot	152,000.00	152,000.00	
(8) Unit house for union		1	lot	60,000.00	60,000.00	
(9) Provision equipment	Wheel backhoe	1	lot	110,000.00	110,000.00	
	Spare parts, fuel, etc	1	lot	33,000.00	33,000.00	
total				143,000.00		
Direct cost total				1,100,435.00		
(10) Transportation		660	F/T	250.00	165,000.00	
(11) Man power cost	Japanese Civil engineer	6	M/M	8,400.00	50,400.00	
	Japanese Civil engineer	10	M/M	6,800.00	68,000.00	
	Japanese technician	9	M/M	6,500.00	58,500.00	
	Japanese Administrator	6	M/M	5,600.00	33,600.00	
	Local engineer	18	M/M	730.00	13,140.00	
Total				223,640.00		
(12) General Temporary Cost	Site office	1	lot	5,000.00	5,000.00	
	Utilities	1	lot	7,000.00	7,000.00	
	Car	2	pcs	20,000.00	40,000.00	
	Storage yard	1	lot	1,000.00	1,000.00	
total				53,000.00		
(13) Site expense				231,311.25	15% of amount	
(14) General expense				77,103.75	5% of amount	
Grand total				1,850,000.00	¥203,500,000	

APP. 6.3.4 Cost Estimate (5)
(Laleia-R Irrigation System)

Item	Q'ty	Unit	Unit price (US\$)	Amount (US\$)	Remarks
(1) Intake					
Excavation	410.8	m3	34.55	14,193.14	
Backfilling	256.8	m3	15.07	3,869.98	
Soil disposal	153.9	m3	19.50	3,001.05	
Concrete	220.4	m3	260.00	57,304.00	
Wet masonry	8.9	m3	130.00	1,157.00	
Form work	339.0	m2	26.00	8,814.00	
Re-bar	26.1	ton	650.00	16,965.00	
Gabion	101.2	m2	77.98	7,891.58	
Erosion protect sheet	128.0	m2	10.40	1,331.20	
Scaffolding	232.3	m2	10.00	2,323.00	
Gate 2200x1600	1	pcs	95,000.00	95,000.00	
Gate 1000x1600	2	pcs	62,500.00	125,000.00	
				336,849.94	
(2) Dike & Protection					
Excavation	689.1	m3	34.55	23,808.41	
Backfilling	152.2	m3	15.07	2,293.65	
Soil disposal	537	m3	19.50	10,471.50	
Concrete	111.4	m3	260.00	28,964.00	
Wet masonry	142.2	m3	130.00	18,486.00	
Form work	158.9	m2	26.00	4,131.40	
Gabion	338.7	m2	77.98	26,411.83	
Erosion protect sheet	477.1	m2	10.40	4,961.84	
Scaffolding	274.9	m2	10.00	2,749.00	
				122,277.63	
(5) Wet masonry channel work L=3500m					
Excavation	12600	m3	34.55	435,330.00	
Embankment	4,000	m3	15.07	60,280.00	
Soil disposal	6600	m3	19.50	128,700.00	
Gravel	1200	m3	26.00	31,200.00	
Wet masonry	2700	m3	130.00	351,000.00	
Concrete	960	m3	260.00	249,600.00	
Total				1,256,110.00	
(6) Unit house	1	lot	60,000.00	60,000.00	
(7) Equipment	1	lot	143,000.00	143,000.00	
(8) Temporary work					
Embankment	1,200	m3	15.07	18,084.00	
Re-embankment	1,200	m3	15.07	18,084.00	
Sand bag	12,500	pcs	1.30	16,250.00	
Water Control	1	lot	20,000.00	20,000.00	
Total				72,418.00	
Direct cost total				1,990,655.57	
(9) General expense				209,018.83	
Grand total				2,199,674.40	

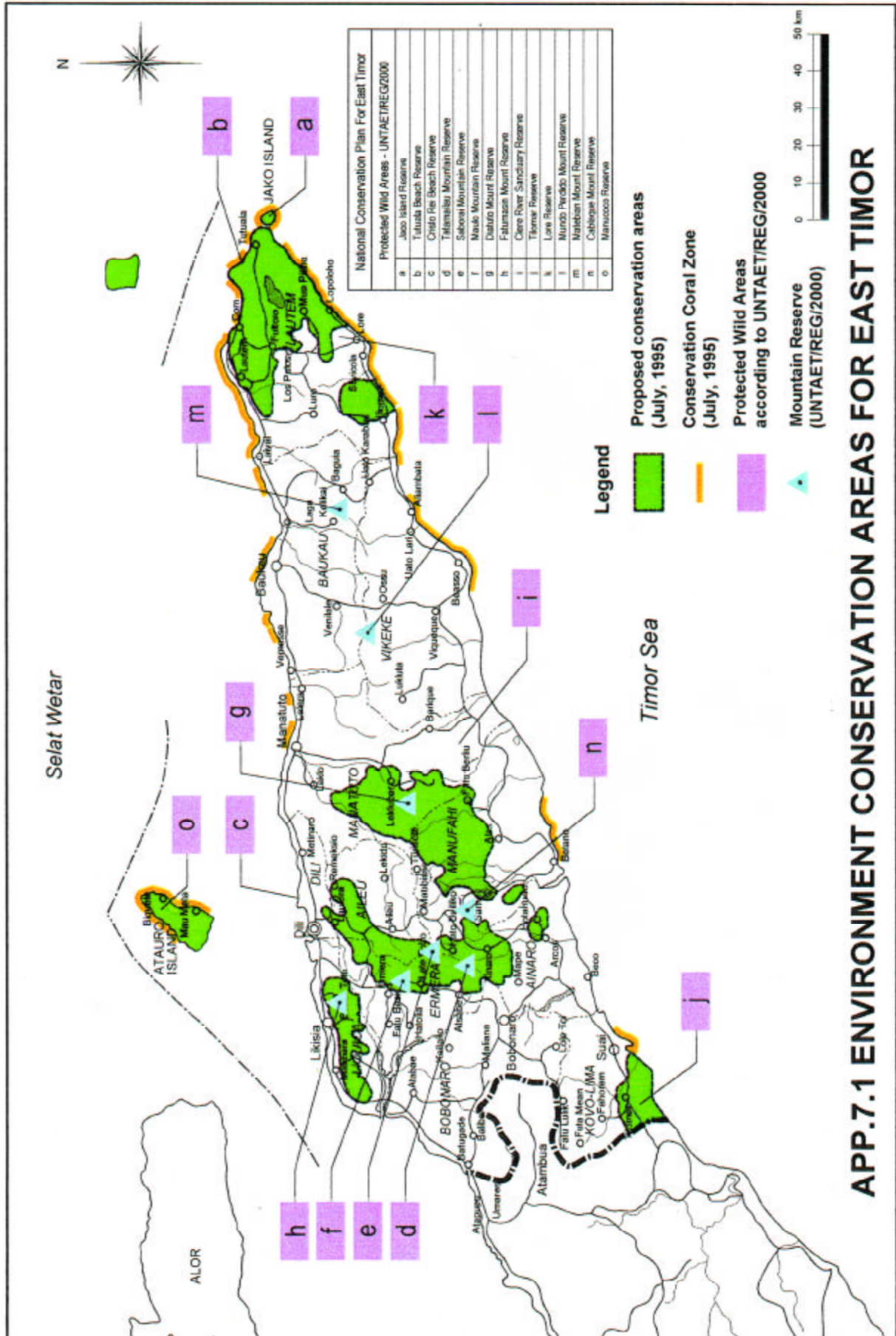
**APPENDICES FOR CHAPTER 7
ENVIRONMENTAL ASPECT**

**DRAWINGS
FOR
3 YEARS URGENT REHABILITATION WORK**

Appendices for Chapter 7

APP.7.1 General

- Environment Conservation Area For East Timor



Appendices for Chapter 7

APP.7.2 Initial Environmental Examination (IEE)

- (1) Project Description of Quick Road Rehabilitation
- (2) Project Description of Quick Road Shoulder and Side Ditch Restoration
- (3) Project Description of Urgent Rehabilitation Plan for Road
- (4) Site Description of Road Sector
- (5) Screening of Road Sector
- (6) Scooping of Road Sector
- (7) Project Description of Urgent Rehabilitation Plan for Port
- (8) Site Description of Port Sector
- (9) Scooping of Port Sector
- (10) Project Description of Urgent Rehabilitation Plan for Power
- (11) Site Description of Power Sector
- (12) Screening of Power Sector
- (13) Scooping of Power Sector
- (14) Project Description of Urgent Rehabilitation Plan for Agriculture
- (15) Site Description of Agriculture Sector (1)
- (16) Site Description of Agriculture Sector (2)
- (17) Screening of Agriculture Sector
- (18) Scooping of Agriculture Sector (1)
- (19) Scooping of Agriculture Sector (2)

APP. 7.2 IEE (1): Project Description of Quick Road Rehabilitation

Items	Contents
Name of the Project	Quick Project on Road Rehabilitation in East Timor
Background	Existing road condition are affected by a long-term neglect of maintenance and frail road network due to lack of construction to any design standard. Particularly ,existing road can not passable to go southern coast area from Laga through Baguia area .
Objectives	Restoring of damaged road to long term absent maintenance, Restore of key Failure points and Maintaining to passable road.
Location	Route1: District of Dili, Ailiue, and Ainaro (Dili- Ailiue-Ainaro) Route2: District of Baucau, Viqueque (Baucau-laga-Baguaia- Junction of sourthern coastal road)
Implementing organization	JICA & UNTAET
Benefiting population	Route1: 16,000 Route1: 70,000
Description of plan	
Contents of work	Restoration of the key parts of road network to impassable (Embankment by gabion, pavement, causeways & etc.)
Road classification	Main road (Inter city, Mountainous area)
Construction year Traffic level	Year 2000: vehicles/hour: (50 -100 vehicles/day)
Length / Width / No. Of lanes	Total length: Route1:110 km, Route2:70 km Pavement width: 3.0-4.5m, lane: 1
Structure of road	Embankment and cut
Appurtenant facility	Interchange: - units Toll station: - units
Other specific matters	Nothing
Notes) Survey will be conducted within information obtainable from existing documents.	

**APP.7.2 IEE (2): Project Description of Quick Road
Shoulder and Site Ditch Restoration**

Items	Contents
Name of the Project	Quick Project on Road shoulder and Side ditch Restoration
Background	Road Shoulder on during the Dili-Baucau is full of Weeds, thus making the sight narrow, Side drainage ditch are also damaged causing disturbance vehicle transportation.
Objectives	Transportation conditions of road will be improved by slashing the weeds of road shoulder and remove sediments from side ditch.
Location	District of Dili, Manatuto, Baucau
Implementing organization	JICA
Benefiting population	195,000
Details of plan	
Contents of work	Slashing the weeds of road shoulder and remove sediments from side ditch
Road classification	Main raod: Rural area, Cost area, Mountainous area
Planned year/Traffic level	Year: 2000, 300 vehicles/day
Length / Width / No. Of lanes	Total length: 123 km Width: 4.5 m, lane: 2
Structure of road	Embankment and cut
Attached facilities	Interchange: - units Toll station: - units
Other specific matters	Nothing

(Notes) Survey is conducted within information obtainable from existing documents.

APP.7.2 IEE (3): Project Description of Urgent Rehabilitation Plan for Road

Items	Contents
Name of the Project	3 years Urgent Rehabilitation Plan of Road and Bridge
Background	Existing road condition are affected by a long-term neglect of maintenance and frail road network due to lack of construction to any design standard.
Objectives	Restoring of damaged road to long term absent maintenance, Restore of key Failure points and Maintaining to passable road. Continuation of routine and periodic maintenance
Location	Rehabilitation plan of related road and bridge cover 12 districts.
Implementing organization	UNTAET
Benefiting population	Related population: 300,000
Description of plan	
Contents of work	Restoration of the key parts of road network (Gabion, Embankment, pavement, causeways & Pipe culvert, etc.)
Road classification	Main road and Rural road (Inter city, Mountainous area)
Construction year Traffic level	Year 2000: vehicles/hour: Main road: 500-200 vehicles/day Rural road: less than 100
Length / Width / No. Of lanes	Total length: Main road 1,627 km , Number of Bridge: 68 places Pavement width: 3.0-4.5m, lane: 1
Structure of road	Type I: Embankment and cut (gravel) Type II: Asphalt pavement
Appurtenant facility	Interchange: - units Toll station: - units
Other specific matters	Nothing
Notes) Survey will be conducted within information obtainable from existing documents.	

APP.7.2 IEE (4): Site Description of Road Sector

Name of the Project	-Quick Project of Road Rehabilitation -Quick Project of Road Shoulder and Side Ditch Restoration Urgent 3 years Rehabilitation Plan of Road and Bridge
1) Social Environment	
Local people (Dwellers / former occupants / Consciousness for project)	There is no large Mass of housing communities in rehabilitation route except Dili, but small communities exist sporadically
Utilization of land (Urban area /Farming area/ Historical works/ Picturesque place/Hospitals etc.)	Construction will be carried out within demarcation of the road. Surrounding areas are Almost farmland and mountainous area.
Economy/Transportation (commerce/Agriculture & Fishery/ Industrial area/Bus terminals etc.)	Pass through smaller farming communities. Use purposes are commerce, agriculture, and Life road.
2) Natural Environment	
Topography, Geography (steep slope, fragile ground, Swamp area and land discoloration) of nominated species)	Pass thought flat farming area and mountain area. There is some portion with rock collapse land sliding in the mountains.
Valuable Fauna and Flora, Growing area (Natural park, Growing area of nominated species)	There will be no area for precious fauna and flora in the road site. It has attention when it passes a river, a swampy area.
3) Public hazard	
Situation on the occurrence of claims (Public hazard of high concern etc.)	Not especially occurred. (The construction is only rehabilitation works)
Coping situation (Countermeasure system /Compensation etc.)	Nothing (New site acquisition for construction is unnecessary)
Others specific matters	Nothing

Notes: Survey will be Conduct within information obtainable from existing documents.

APP. IEE (5) : Screening of Road Sector

Items of environment	Contents	Evaluation	
I. Social Environment			
1	Transfer of dwellers	Transfer upon acquisition if lands (dwelling right, transfer of land ownership)	Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/> Unknown
2	Economic activities	Loss of means of production e.g. lands: Change of economic structures	Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/> Unknown
3	Transportation and Living facilities	Effects to present traffic jam, traffic accident to schools, hospitals etc.	Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/> Unknown
4	Breakage of Communities	Breakage of local communities with traffic barrier	Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/> Unknown
5	Ruins, cultural assets	Loss and/or deterioration of temples, shrines and hidden cultural assets	Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/> Unknown
6	Water, fishing and Forest rights	Disturbances to water, fishing and forest utilization rights	Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/> Unknown
7	Health	Deterioration of health environment such as garbage, outbreak of noxious insects	Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/> Unknown
8	Refuse	Generation of construction refuse, extra soil and refuse in general	<input checked="" type="checkbox"/> Yes: <input type="checkbox"/> No: <input type="checkbox"/> Unknown
9	Natural disaster (Risk)	Increasing danger of Land collapse, land slide and other accidents	Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/> Unknown
II. Natural environment			
10	Topography, geography	Change of valuable topographic and geographic natures with digging and/or filling of soil	Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/> Unknown
11	Soil erosion	Loss of top soil with rainfall as the results of land opening and cutting of forest trees	Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/> Unknown
12	Underground water	Drying up of underground water as the results of digging and following drainage	Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/> Unknown
13	Situation of lakes and rivers	Change of water flow and river bed with reclamation and inflow of drainage water	Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/> Unknown
14	Coast, Sea	Coast erosion and soil accumulation with reclamation and change of current	Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/> Unknown
15	Animals and plants	Obstruction of multiplication and extinction of species with the change of living conditions	Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/> Unknown
16	Climate	Change of temperature and wind with large scale land opening and construction	Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/> Unknown
17	Scenery	Change of topography with opening and disturbance in the harmony with construction	Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/> Unknown
III. Public Hazard			
18	Air pollution	Pollution with exhaust gas and noxious gas of vehicles and factories	Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/> Unknown
19	Water contamination	Water contamination with inflow of eroded soil and factory waste water	Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/> Unknown
20	Soil contamination	Contamination with dust, agricultural, chemicals and asphalt etc.	Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/> Unknown
21	Noise, vibration	Occurrence of noise and vibration caused by vehicles etc.	Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/> Unknown
22	Sinking of land altitude	Sinking of land surface caused by changing of land formation and lowering ground water table	Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/> Unknown
23	Offensive odor	Occurrence of exhaust gas and ill smelling substances	Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/> Unknown
General evaluation: Is this a project that requires implementation of EIA?		Not necessary	

APP. IEE (6) : Scoping of Road Sector

	Items of environment	Evaluation	Authority
I .Social environment			
1	Transfer of dwellers	C	No transfer of inhabitants
2	Economic activities	C	Economic will be Vitalized with road repair
3	Transportation and Living facilities	B	Existing road alignment remain and not severe affected by rehabilitation
4	Breakage of Communities	C	No changed
5	Ruins, cultural assets	B	No specific effect. (There is no data)
6	Water, fishing and Forest rights	C	No river repair, thus no effects on water right and forest right
7	Health	C	No deterioration on health and sanitation
8	Refuse	B	Weeds and digging soil are left.
9	Natural disaster (Risk)	C	No occurrence of land collapse and Land slide
II .Natural environment			
10	Topography, geography	C	There will be no large scale de artificial topographic change If change route , necessary survey again.
11	Soil erosion	C	To repair, reconstruction work, no occurrence of soil erosion
12	Underground water	C	No effect on under ground water.
13	Situation of lakes and rivers	C	There will be no construction works inside lake and river.
14	Coast, Sea	C	There will be no effect on the sea area.
15	Animals and plants	B	There will be no living areas of precious fauna and flora with in Road area (There is no data)
16	Climate	C	There will be no work that may occur during climatic change.
17	Scenery	C	There will be no construction of facilities that may change the scenery.
III.Public hazard			
18	Air pollution	C	There will be no air pollution since the size of the transportation will not be increased drastically.
19	Water contamination	B	There will not be work that may bring water pollution. Only construction stage.
20	Soil contamination	C	There will be no enhancement of soil erosion with the work, no occurrence of noxious substances.
21	Noise, vibration	C	There will be no increase of noises and vibration after work.
22	Sinking of land altitude	C	No use of underground water.
23	Offensive odor	C	There will be no cause of bad odor.

Note: The classification of evaluation

A: The subject E.I is unquestionably induced by the Project

B: The subject E.I is likely to be induced by the Project

C: There is no possibility of the subject E.I being induced by the Project (It isn't made the target of EIA.)

APP.7.2 IEE (7) : Project Description of Urgent Rehabilitation Plan for Port

Items	Contents
Name of the Project	Three years urgent rehabilitation for port (Dili and Com Port)
Background	<ul style="list-style-type: none"> -Existing pile foundations for Navigation Aids and Revetment of East container Yard at Dili Port have been become superannuated. These facilities need to restore to prevent the collapse of the structure. - Many of fenders at Dili Port and Com Port have been broken. These also shall be necessary to restore. - Existing condition of West Container Yard of Dili port is not efficiently for Container cargo handling because there is not paved. This area shall be paved with Interlocking concrete block and Asphalt concrete including the rehabilitation of Utilities such as Water supply, Lighting system etc.
Objectives	<p>To offer as safe navigable and berthing port and operate as a 24 hours port.</p> <p>To secure safety, and rise of the cargo-handling efficiency</p>
Location	<p>Dili Port (latitude 08° 33' South and longitude 125° 31' East)</p> <p>Com Port (latitude 08° 22' South and longitude 127° 04' East)</p>
Implementing organization	United Nations Development Program
Benefiting population	Assumed benefiting population is 300,000 (equivalent to the population of Dili, Liquica, Aileu, Manatuto District)
Details of plan	
Contents of work	Restoration of Existing Facilities (Navigation Aids, Fenders and Revetment) , Rehabilitation of Pavement and Utilities of Container Stacking Yard
Correct Port condition	International & Domestic Trading port Commercial port
Demand/Objected ships	No recent annual data is available. (Assumed annual number of ship calls is 600 and annual import & export cargo volume is 100,000 ton)
Pier facilities	Wharf Water depth -7.0 m / Length 240 m (Dili) Water depth -10.0 m / Length 240 m (Com)
Auxiliary Facility	Shore Protection wall 180 m (Dili)
Water area facility	Channel : L=1,500 m / Water depth : -7.0 ~ -10.0m
Dredging/Reclamation etc.	No dredging & reclamation works.
Related development	Completion of Wharf expansion and Rehabilitation of East Container Yard, Slipway of Dili Port are under implementation by ADB.
Other specific matters	Nothing

Notes) Survey will be conducted within information obtainable from existing documents.

APP.7.2 IEE (8) : Site Description of Port Sector

1) Name of the Project	Three year urgent rehabilitation plan of port (Restoration of Navigation Aids and Fender System at Dili Port)
1) Social Environment	
Local people (Dwellers / former occupants / Consciousness for project)	No local people live in Dili Port Area. The back site of the Dili port has been used as a park.
Utilization of land (Fishery community, fishery Market, Coast industrial area , Historical sites)	Navigation Aids is located on the sea and Fender System is located along quay wall.
Economy/Transportation (Commerce/Agriculture & Fishery/ Industrial area/Bus terminals etc.)	The circumference of the port is a urban zone and Agriculture land. Foreign passenger ships calls at this port.
2) Natural Environment	
Topography, Geography (steep slope, fragile ground, swamp area and land discoloration) of nominated species)	Location of Fender is along quay wall.
Coast •Sea area (Erosion, Sediment, Accumulation, Tide, sea Depth)	Location of Navigation Aids is on sea area without any influence of Erosion, Sediment, Accumulation.
Living areas of rare fauna and flora (Mangrove, coral, water creatures)	If it says by force, coral will come out to some extent, but less influence.
3) Public hazard	
Situation on the occurrence of claims (Public hazard of high concern etc.)	No occurrence of claims from Public hazard
Coping situation (Countermeasure system /Compensation etc.)	Not distinct in the future because of the transitional administration by UNTAET
Others specific matters	No occurrence of troubles because of rehabilitation

Notes: Survey is Conduct within information obtainable from existing documents.

APP.7.2 IEE (9) : Screening of Port Sector

Items of environment		Contents	Evaluation	Remarks (basis)
I .Social environment				
1	Transfer of dwellers	Transfer upon acquisition if lands (dwelling right, transfer of land ownership)	Yes <input checked="" type="radio"/> No <input type="radio"/> Unknown	
2	Economic activities	Loss of means of production e.g. lands & fishing area: Change of economic structures	Yes <input checked="" type="radio"/> No <input type="radio"/> Unknown	
3	Transportation and Living facilities	Effects to present traffic jam, traffic accident to schools, hospitals etc.	Yes <input checked="" type="radio"/> No <input type="radio"/> Unknown	
4	Breakage of Communities	Breakage of local communities with traffic barrier	Yes <input checked="" type="radio"/> No <input type="radio"/> Unknown	
5	Ruins, cultural assets	Loss and/or deterioration of temples, shrines and hidden cultural assets	Yes <input checked="" type="radio"/> No <input type="radio"/> Unknown	
6	Water, fishing and Forest rights	Disturbances to water, fishing and forest utilization rights	Yes <input checked="" type="radio"/> No <input type="radio"/> Unknown	
7	Health	Deterioration of health environment such as garbage, outbreak of noxious insects	Yes <input checked="" type="radio"/> No <input type="radio"/> Unknown	
8	Refuse	Generation of construction refuse, extra soil and refuse in general	<input checked="" type="radio"/> Yes <input type="radio"/> No: Unknown	A few influence
II .Natural environment				
9	Natural disaster (Risk)	Increase in the danger of ship accidents etc., land slide and other accidents	Yes <input checked="" type="radio"/> No <input type="radio"/> Unknown	
10	Topography, geography	Change of valuable topographic and geographic natures with digging and/or filling of soil	<input checked="" type="radio"/> Yes <input type="radio"/> No: Unknown	A few influence
11	Soil erosion	Loss of top soil with rainfall as the results of land opening and cutting of forest trees	Yes <input checked="" type="radio"/> No <input type="radio"/> Unknown	
12	Underground water	Drying up of underground water as the results of digging and following drainage, Contamination with underground water	Yes <input checked="" type="radio"/> No <input type="radio"/> Unknown	
13	Situation of lakes and rivers	Change of water flow and river bed with reclamation and inflow of drainage water	Yes <input checked="" type="radio"/> No <input type="radio"/> Unknown	
14	Coast, Sea	Coast erosion and soil accumulation with reclamation and change of current	Yes <input checked="" type="radio"/> No <input type="radio"/> Unknown	
15	Animals and plants	Obstruction of multiplication and extinction of species with the change of living conditions	<input checked="" type="radio"/> Yes <input type="radio"/> No: Unknown	A few influence
16	Climate	Change of temperature and wind with large scale land opening and construction	Yes <input checked="" type="radio"/> No <input type="radio"/> Unknown	
17	Scenery	Change of topography with opening and disturbance in the harmony with construction	Yes <input checked="" type="radio"/> No <input type="radio"/> Unknown	
III .Public hazard				
18	Air pollution	Pollution with exhaust gas and noxious gas of ships and factories	Yes <input checked="" type="radio"/> No <input type="radio"/> Unknown	
19	Water contamination	Water contamination with inflow of eroded soil and factory waste water	Yes <input checked="" type="radio"/> No <input type="radio"/> Unknown	
20	Soil contamination	Contamination with dust From cargo accumulated outside, agricultural chemicals etc.	Yes <input checked="" type="radio"/> No <input type="radio"/> Unknown	
21	Noise, vibration	Occurrence of noise and vibration caused by vehicles etc.	Yes <input type="radio"/> No <input checked="" type="radio"/> Unknown	
22	Sinking of land altitude	Sinking of land surface caused by changing of land formation and lowering ground water table	Yes <input checked="" type="radio"/> No <input type="radio"/> Unknown	
23	Offensive odor	Occurrence of exhaust gas from port facilities and ill smelling substances	Yes <input checked="" type="radio"/> No <input type="radio"/> Unknown	
General evaluation: Is this a project that requires implementation of IEE or EIA			Needed <input checked="" type="radio"/> Not needed <input type="radio"/>	

APP.7.2 IEE (10) : Scoping of Port Sector

Items of environment		Evaluation	Authority
I .Social environment			
1	Transfer of dwellers	D	No plan to expand the existing ports
2	Economic activities	D	No harmful influence to present coast fishery
3	Transportation and Living facilities	D	No private houses in the port site
4	Breakage of Communities	D	No bad effect because of no communities in the site
5	Ruins, cultural assets	D	No ruins and cultural asset in the port site
6	Water, fishing and Forest rights	C	Small fishing activities are done.
7	Health	D	Necessary to measure effects of drain water from calling ships at the port
8	Refuse	C	Necessary to investigate drain water from calling ship sat the port
II .Natural environment			
9	Natural disaster (Risk)	D	No land development at a large scale
10	Topography, geography	C	No severe precious topography and geography
11	Soil erosion	D	No land development to cause soil erosion
12	Underground water	D	No lifting of ground water
13	Situation of lakes and rivers	D	No related power station
14	Coast, Sea	C	No sedimentation by change of a tide
15	Animals and plants	C	Indistinctness of existence of precious species
16	Climate	D	No land development at a large scale
17	Scenery	D	No scenery change because a port exists at present
III .Public hazard			
18	Air pollution	D	Little effect to air pollution by increase of ships
19	Water contamination	D	Little effect to sea water pollution by increase of ships
20	Soil contamination	D	No action to cause soil contamination
21	Noise, vibration	D	No remarkable noise and vibration
22	Sinking of land altitude	D	No land development at a large scale
23	Offensive odor	D	No action to cause odor

Note: The classification of evaluation

A:The subject E.I is unquestionably induced by the Project

B:The subject E.I is likely to be induced by the Project

C:The E.I is unknown (As investigation proceeds, it is put in the consideration in becoming clear)

D:There is no possibility of the subject E.I being induced by the Project(It isn't made the target of EIA.)

APP.7.2 IEE (11) : Project Description of Urgent Rehabilitation Plan for Power

Items	Contents			
1. Name of the Project	Three (3) Year Urgent Rehabilitation Plan of Power			
2. Back ground and Purpose of the Project	<p>58 power stations exist in East Timor. Many of them were damaged due to destruction during independent civil war in 1999.</p> <p>Generating capacity has been declined in number of power stations. Among those stations, urgent rehabilitation of 17 power stations proposed. Generating system of those power stations are diesel oil generator with maximum capacity range of 3.0Mw~25Kw.</p>			
3. Outline of the Project				
Outline of the Region	Power stations are situated in the Capital City of Dili, a district cities and towns. Some stations are located in urban or adjoin area of villages.			
Type of the Project	Rehabilitation			
Output Capacity	3.0Mw~ 2 5 k w (Import diesel oil)			
Source of fuel	diesel oil (import)			
Excuting Agency	Power department			
Related Environmental Organization	Environmental Protection Unit			
4. Component of the Project and Outline				
Main Components	Project Type		Planned Scale	Remarks
	New	Rehabilitation		
a. Land Construction	-	-	- ha	No Construction
b. Exhaust Gas	-	○	Discharge SO _x , NO _x , DUST	Check the box if pollution control is necessary, check box isn't put now.
c. Fuel Storage	-	○	10 ~ 1x10 ³ l/For three days	Land transportation
d. waste	-	○	Engine Oil 450 l/Month	Treatment by Incinerator

APP.7.2 IEE (12) : Site Description of Power Sector

1. Name of the Project

Urgent 3 years Rehabilitation Project of Power

2. Social Condition of the Project area

Land use (land ownership)	All of existent power stations are located at nationally-owned land. Land purchase is not required for rehabilitation project.
Economic Activity around the area	3 power stations are in the Metropolitan area of Dili City. Other 54 sites are in the district towns and villages. Farming is being practiced in vicinity areas.
Local Residence	Inhabitants are residing at around power stations.
Public health	Harmful influence is not observed due to existence of power station.
People/Population (Aborigines/Minorities/Others)	Dili city holds 100,000 population. Other cities with less than 20,000 population. There are villages with population of 2,000 to 3,000.
Transportation	National road is used to access power station. Inhabitants are also utilizing the same road.
Pollution Complains	No complaint against noise/sound of existent power stations.

3. Nature Condition of the Project Area

Weather	Annual precipitation is 1,000mm in northern part, 1,800mm in southern part and 2,400mm in mountainous region. Annual mean temperature is 25°C with annual variation of 3~5°C.
Nature Disaster	Landslide due to localized torrential downpour during rainy season (November-April).
Air Condition	Observation of air/atmosphere is not practiced. Detailed information is not available.
Landscape	Existing power stations are situated at stable flatlands of city, towns and villages.
Rivers	Existing power stations are not influenced by the river floodwaters.
Vegetation	There are farmlands and natural forest in surrounding areas of existing power stations.
Precious Lives / Fragile Nature	No precious lives to be protected inhabit nearby power station sites since power stations are located in cities, towns and villages or surroundings of those areas.

4. Specific Condition to be Considered

Condition to be considered						
	Exists within the project area			Exists near the project area		
a) Special Reserved area	Yes	No	Unknown	Yes	No	Unknown
a-1) Habitation area of the animals under CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora (Washington Convention))	Yes	No	Unknown	Yes	No	Unknown
a-2) Wetlands under CWII (Convention of Wetlands of International Importance (Ramsar Convention))	Yes	No	Unknown	Yes	No	Unknown
a-3) National Parks / Natural Preservation Areas	Yes	No	Unknown	Yes	No	Unknown
a-4) Others	Yes	No	Unknown	Yes	No	Unknown
b) Specific Social Condition						
b-1) Aborigines, Minorities	Yes	No	Unknown	Yes	No	Unknown
b-2) Historic Places, Cultural Heritages, etc	Yes	No	Unknown	Yes	No	Unknown
b-3) Areas which will receive negative impact	Yes	No	Unknown	Yes	No	Unknown
b-4) Others	Yes	No	Unknown	Yes	No	Unknown
c) Natural Condition						
c-1) Coastal District						
c-1-1) Coastal District	Yes	No	Unknown	Yes	No	Unknown
c-1-2) Coral Reef	Yes	No	Unknown	Yes	No	Unknown
c-1-3) Sand Beach	Yes	No	Unknown	Yes	No	Unknown
c-1-4) Tidal Flat	Yes	No	Unknown	Yes	No	Unknown
c-2) Inland District						
c-2-1) Tropical Forest	Yes	No	Unknown	Yes	No	Unknown
c-2-2) Wetland	Yes	No	Unknown	Yes	No	Unknown
c-2-3) Water Reservoir	Yes	No	Unknown	Yes	No	Unknown
c-3) Mountain District						
c-3-1) Steep Mountain Area	Yes	No	Unknown	Yes	No	Unknown
c-3-2) Volcanos	Yes	No	Unknown	Yes	No	Unknown
c-4) Others	Yes	No	Unknown	Yes	No	Unknown

Unknown : Not clear at this moment due to unspecified designs, but needed to be detailed inspected

5. Existing Pollution of the Project Area

Air Pollution	Seem to be not polluted though detailed information is not available.
Water Pollution	Seem to be not polluted though detailed information is not available.
Noise / Vibration	No complaint from inhabitants
Others	Existence of lives to be imposed legal controls for preservation of nature is not known. No problem occurred so far because of small scale power station.

6. Legal Restriction (Effluent Standard. Limits)

The EPU is in charge of Environmental administration and legal preparation is being processed. However, the environmental standard on power source development is not prepared yet. Negative influence to the environmental condition is not expected since the purpose of the Urgently 3 years rehabilitation project of power is to recover the power capacity of damaged power stations.

APP. 7.2 IEE (13) : Screening of Power Sector

Major Factors	Specific Items	Results	Remarks
I . Social environment			
1. Society Whether the project has negative impact to the society and people near the area	-Unvoluntary Resettlement -Split of society -Impact to aborigine, minorities -Change of economic Activities -Change of public facilities -Traffic change -Impact to commons, property rights,etc.	Likely to Occur <u>Unlikely to Occur</u> Impossible to determine	A problem doesn't happen until now.
2. Historical, Cultural Sites Whether are project region has socially, historically or naturally valuable area	-Impact to historical and cultural heritages -Extensive change of the panoramic views	Likely to Occur <u>Unlikely to Occur</u> Impossible to determine	A power plant is in the city, and a problem doesn't happen.
II .Natural environmet			
3. Precious Fauna and Flora Whether are project region has precious lives	-Impact to precious nature (wetlands, tropical forests, wildlands, coral reeves) -Impact to precious species -Impact to vegetation	Likely to Occur <u>Unlikely to Occur</u> Impossible to determine	A power plant is in the city, and a problem doesn't happen.
4. Landscape / Soil Whether the project brings soil contamination, ground subsidence, change of landscape	-Ground subsidence -Change of landscape	Likely to Occur Unlikely to Occur <u>Impossible to determine</u>	The treatment of waste oil is insufficient, and it is being planned.
5. Water Quality Whether are project brings negative impact to surface and underground water	-Change of surface water flow, volume, temperature -Change of ground water level, volume - Water pollution	Likely to Occur Unlikely to Occur <u>Impossible to determine</u>	The treatment of waste oil is insufficient, and it is being planned.
6.Air Pollution	- Air pollution - Noise, Vibration - Offensive Odor	Likely to Occur Unlikely to Occur <u>Impossible to determine</u>	There is no observation value.
Overall Evaluation	Modify the design / place	No	Not necessary
	IEE or EIA	No	Equipment of Observation is necessary

APP.7.2 IEE (14) : Scoping of Power Sector

Environment Items	Description	Evaluation	Remarks
I .Social environment			
1.Resettlement	Relocation Triggered by the project	D	No applicable person.
2.Split of Societies	Split due to presence of the project	D	It lacks an influence.
3.Aborigine	Impact to aborigines, minorities	D	It lacks an influence.
4.Friction	Increase of friction among people	D	It lacks an influence.
5.Economic Activities	Impact to local economy, loss to the production basis	D	Impossible to determine
6.Public Facilities	Impact to school, hospital, etc	D	No influence
7.Traffics	Increase of congestion, accidents	D	No influence
8.Commons, Rights	Loss to the fishing rights, common rights	D	Lack of the data
9.Cultural Heritage	Impact to historic monuments, etc	D	No influence
10.Change of Views	Drastic change of panoramic views	D	No influence
II .Natural environment			
11.Precious Nature	Collapse of wetlands, tropical forests, wildlands, mangroves, etc	C	Lack of the data
12.Precious Animals, Plants	Impact to precious species, original animals, plants, etc	C	Lack of the data
13.Vegetation	Impact to vegetation	D	No influence
14.Landscape	Change of landscape	D	No influence
15.Ground water	Change of groundwater level	C	No severe influence
16.Surface water	Change of route, volume, etc	D	No influence
17.Surface water	Change of temperature	D	No influence
18.Air Pollution	Caused by factories and cars	C	No observation value
19.Water Pollution	Caused by factories and land construction / excavation	C	Waste oil treatment is insufficient.
20.Soil Contamination	Caused by toxic waste dispose	C	-do-
21.Noise/ Vibration	Caused by traffics and factories	C	No observation value
22.Ground Subsidence	Caused by overuse of groundwater	C	No influence
23.Offensive Odor	Caused by exhaust gas, wastes	C	No influence

Evaluation Grade :

A : Strong Impact is expected

B : Little impact is expected

C : Unknown (Not clear at this moment due to unspecified designs, but need to be detailed designed)

D : Impact is insignificant, and no need to be a scope of the EIA

**APP.7.2 IEE (15):Project Description of Urgent Rehabilitation Plan
for Agriculture**

Item	Contents		
1. Name of the Project	-Quick Project of Lacro Irrigation System -Three (3) Years Plan for Urgent Rehabilitation Plan of irrigation		
2.Back ground and Purpose of the Project	The existing infrastructure of irrigation will be rehabilitated for the agricultural restoration of Timor. The target areas are the three districts of Manatuto, Bacau and Viqueque which are the major rice production regions of the country. The four rehabilitation projects of irrigation system in Lacro, Seical, Uatolari-I and Lareia-R will be selected and implemented from the target areas because of urgent needs for restoration.		
3.Outline of the Project			
Location of the project	a) Lacro-1:Manatuto district ,lacro river Basin in northern coast b)Lacro-1:Manatuto district ,lacro river Basin in northern coast c)Lacro-2: Manatuto district ,lacro river Basin in northern coast d) Seical: Baucau district ,Seical river Basin in northern coast f)Uatolari-I:Viqueque district ,bebui river Basin in southern coast e)Lareia-R: Manatuto district ,lacro river Basin in northern coast		
Type of the Project	Rehabilitation of Irrigation Infrastructure, Canal cleaning		
Relevant Project Components	Intake facility, Canal network, Farm road		
Executing Agency	Department Agriculture Affair		
Related Environmental Organization	Environmental Protection Unit (EPU)		
4. Component of the Project and Outline			
Irrigation system	Component of the Project	Benefited Area (ha)	Beneficiaries (persons)
a)Quick Project Lacro irrigation system	Intake, Canal network, farm road	660	200
b)Lacro-I irrigation system	Intake, Canal network, farm road	420	200
c)lacro-II irrigation system	Intake, Canal network, farm road	660	200
d)Seical irrigation system	Dam, Canal network, farm road	580	300
e)Uatolari-I irrigation system	Dam, Canal network, farm road	680	220
f)Lareia-R irrigation system	Intake, Canal network, farm road	600	200

APP.7.2 IEE (16) : Site Description of Agriculture Sector (1/2)

1. Name of the Project

-Quick Project of Laclo irrigation System -3 year Urgent Rehabilitation Plan of Irrigation

2. Social Condition of the Project area

(1) Land use (Land ownership)	The existing arable lands are owned by farmers themselves. The average land holding size is 1.5 ha to 2.0 ha. The lands of intake and canal are the national lands.
(2) Economic activity around the area	The target areas of rehabilitation projects are the agricultural regions mainly for rice production. The local cities necessary for daily life are located in the neighborhood of the target areas.
(3) Customs (riparian rights, water right, etc.)	The rivers are belonging to the nation. The water right is legally indistinct. The conflicts of water right are not recorded in the past.
(4) Host people or community	The inhabitants are settling down in the existing arable lands. There is no nomadic tribe.
(5) Public health	The affects to the public health by the existing irrigation area are indistinct. (Probably, there is no affect.)
(6) People/Population (Aborigines/Minorities/Others)	Manatuto : 18,000 , Baucau : 13,000, Lareia including Vemasse : 11,000, Uatolari-I : 6,000
(7) Transportation	The national road is used as an access road to the existing irrigated area. The farm roads in the irrigated area are not equipped except for the irrigation systems in Laclo and Seical.

3. Natural Condition of the Project Area

(1) Weather	The annual precipitation is 1,000 mm in the north, 1,800 mm in the south and 2,400 mm in the mountainous area respectively. The annual mean temperature is 25°C with annual variation of 3°C to 5°C.
(2) Natural disaster	Landslide caused by the concentrated rainfalls in the rainy season (November to April). Filling up of intake due to flood.
(3) Topography	The irrigated area is almost flat. A gradient from upstream to downstream is 1/100 to 1/500.
(4) Soils	Soils in the four irrigation system areas consist of clayey, silty or sandy-loam soil.
(5) Rivers	River water contains soil and stones in the flood season and conveys soil and sand to intakes and canals.
(6) Vegetation	The neighborhood of the irrigated area is meadows and forests. The mountain area along the north coast is partly bald.
(7) Precious Lives / Fragile Nature	Indistinct. Probably, precious lives do not inhabit in the irrigated area.

APP.7 IEE (17) : Site Description of Agriculture Sector (2/2)

Environmentally Sensitive Areas in Project Site or Vicinity	Applicable or Not
** Area uner specific designation**	
Habitat of fauna and flora listed in CITES	It is not in the regulation zone.
Wetland designated under the Ramsar Convention	There is no specified zone.
Heritage sites listed in the World Heritage Convention	There is no specified zone.
National park, nature reserve, etc	There is no specified zone.
Socioeconomically sensitive area	
Areas inhabited by indigenous peoples, ethnic minorities, nomads, etc	It is not here on the quarrel between the races.
Historical remains, cultural assets, aesthetic sites	There is no historic spot to protect it.
Area likely to suffer from significant negative economic impact	Negative economic activities don't occur.
Environmentally sensitive natural land	
Arid and semi-arid lands (including savanna, rangeland, etc.)	Nourthen coast area is belong semi arid area
Tropical forests and wildlands	Sourthen coast area is tropical weather.
Wetlands or peat lands (Wetlands, Peat lands)	Irrigation area is the alluvium.
Coastal zones(Mangrove forests, Coral reefs)	There is mangrove in sourthen coast area.
Mountainous, steep sloped, erodible or devastated lands	There is not the land in the Irrigation area.
Closed water bodies such as lakes, swamps or reservoirs	There is not the lake in the Irrigation area.
Environmentally sensitive area Habitat of fauna and flora listed in CITES Wetland designated in Ramsar Convention National park, nature reserve, etc.	Those conservation of nature area isn't specified.

APP.7.2 IEE (18) : Screening of Agriculture Sector

Environmental Issues	Potential SEI	Evaluation
I. Social Environment	1. Planned agricultural settlement	
1. Socioeconomic Issues Will the Project significantly affect socioeconomic activities in and around the Project site, such as daily human life, economic activities, transportation, community institution, customary practices ?	2. Involuntary resettlement 3. Substantial changes in way of life 4. Conflict among communities or peoples 5. Impact on indigenous peoples, ethnic minorities, nomads 6. Population increase 7. Drastic change in population composition 8. Relocation of bases of economic activities 9. Occupational change, loss of labor opportunity 10. Increase in income disparities 11. Adjustment and regulation of riparian rights 12. Changes in social and institutional structures 13. Changes in existing institutions and customs	no no no no Yes No Unknown Unknown Unknown Unknown Unknown Unknown Unknown
2. Health and Sanitary Issues Will the Project significantly affect hygiene in and around the Project area or induce water related diseases ?	1. Increased use of agrochemicals 2. Outbreak of endemic diseases 3. Prevalence of epidemic diseases (schistosomiasis, malaria, onchocerciasis, elephantiasis) 4. Residual toxicity of agrochemicals 5. Increase in domestic and other human wastes	Unknown Yes No No Unknown Unknown
3. Cultural Issues Are any historically, culturally, aesthetically or scientifically important areas situated in the Project site ?	1. Impairment of historic remains and cultural assets 2. Damage to aesthetic sites 3. Impediment of mineral resources exploitation	No No No
II. Natural Environment		
4. Biological and Ecological Issues Are any habitats for rare species or ecologically sensitive areas located in the Project or surrounding areas ?	1. Deterioration or degradation of vegetation 2. Negative impacts on important or indigenous fauna and flora (extinction of or decrease in species) 3. Degradation of ecosystem with biological diversity 4. Proliferation of exotic and/or hazardous species 5. Encroachment on wetland and peat swamp 6. Encroachment on tropical forests 7. Destruction or degradation of mangrove forests 8. Degradation of coral reef	no no no no no no no no
5. Soil and Land Resources Will the Project significantly induce land devastation, soil erosion, soil contamination, etc. ?	1. Soil erosion 2. Soil salinization 3. Deterioration of soil fertility 4. Soil contamination by agrochemicals 5. Devastation or desertification of land 6. Devastation of hinterland 7. Ground subsidence	No No No Unknown Unknown Unknown Unknown
6. Hydrology and Air and Water Quality Issues Will the Project significantly affect hydrological regime of river, lake and swamp, groundwater hydrology or the atmosphere ?	1. Changes in surface water hydrology 2. Changes in groundwater hydrology 3. Inundation and flood 4. Soil sedimentation 5. Riverbed degradation 6. Impediment of inland navigation 7. Water contamination and deterioration of water quality 8. Water eutrophication 9. Sea water intrusion 10. Low irrigation water temperature 11. Atmospheric pollution	No No No No No No No No No No No
Overall Evaluation:	Necessity of EIA	No

APP.7.2 IEE (19) : Scoping of Agriculture Sector (1/2)

- 1) Applicable development activities:
Irrigation, drainage, land cleaning and levelling, sea/swamp reclamation, land consolidation, settlement, dam and reservoir, and subscareil change in farming system
- 2) Applicable development type:
New project or rehabilitation
- 3) Applicable environmentally sensitive area:
Arid and semi-arid lands; tropical forest; wildlands; peat lands; coastal zones; mangrove forests; coral reefs; mountainous, steep sloped or erodible lands; or closed water bodies in the upstream or downstream
(Irrelevant items in the above are deleted)

I. Social Environment

Category of environmental impact	Evaluation				Remarks
	A	B	C	D	
1. Socioeconomic Issues					
(1) Social Aspects					
1. Planned agricultural settlement				<input type="radio"/>	There is no settlement plan.
2. Involuntary resettlement				<input type="radio"/>	Farmer's settlement proceeds.
3. Substantial changes in way of life			<input type="radio"/>		It becomes life improvement because of the income improvement.
4. Conflict among communities and peoples				<input type="radio"/>	It doesn't occur in the past.
5. Impacts on indigenous peoples, ethnic minorities and nomads				<input type="radio"/>	There is no quarrel between the races in a resemblance.
6. Others				<input type="radio"/>	There is no application.
(2) Demographic issues					
1. Population increase					The farmer settles in the project area.
2. Drastic change in population composition				<input type="radio"/>	Th efarmer settles in the project area.
3. Others				<input type="radio"/>	There is no application.
(3) Economic activities					
1. Relocation of bases of economic activities				<input type="radio"/>	Agriculture support service.
2. Occupational change, loss of labor opportunity				<input type="radio"/>	Agriculture support service.
3. Increase in income disparities				<input type="radio"/>	Agriculture support service.
4. Others					There is no application.
(4) Institutional and custom related issues					
1. Adjustment and regulation of water or fishing rights				<input type="radio"/>	It doesn't occur in this plan.
2. Changes in social and institutional structures			<input type="radio"/>		Agriculture support investigation is necessary.
3. Changes in existing institutions and customs				<input type="radio"/>	From development of a resemblance.
4. Others				<input type="radio"/>	There is no application.
2. Health and Sanitary Issues					
1. Increased use of agrochemicals				<input type="radio"/>	From the resemblance area and the past actual results.
2. Outbreak of endemic diseases				<input type="radio"/>	The investigation of the life sanitation is necessary.
3. Prevalence of epidemic diseases				<input type="radio"/>	It is careful of the agricultural chemicals selection.
4. Residual toxicity of a grochemicals				<input type="radio"/>	It is careful of the agricultural chemicals selection.
5. Increase in domestic and other human wastes				<input type="radio"/>	Farmer's settlement proceeds.
6. Others				<input type="radio"/>	There is no application.
3 Cultural Issues					
1. Impainment of historic remains and cultural assets				<input type="radio"/>	There is no application.
2. Damage to aeesthetic sites			<input type="radio"/>		There is no application.
3. Impediment of mineral resources exploitation				<input type="radio"/>	There is no application.
4. Others				<input type="radio"/>	There is no application.

Evaluation Grade:

- A: Strong impact is expected
- B: Little Impact is expected
- C: Unknown (Not clear at this moment due to unspecified designs, but need to be detailed designed)
- D: Impact is insignificant, and no need to be a scope of the EIA

APP.7.2 IEE (20) : Scoping of Agriculture Sector (2/2)

- 1) Applicable development activities:
Irrigation, drainage, land cleaning and levelling, sea/swamp reclamation, land consolidation, settlement, dam and reservoir, and subcarail change in farming system
- 2) Applicable development type:
New project or rehabilitation
- 3) Applicable environmentally sensitive area:
Arid and semi-arid lands; tropical forest; wildlands; peat lands; coastal zones; mangrove forests; coral reefs; mountainous, steep sloped or erodible lands; or closed water bodies in the upstream or downstream
(Irrelevant items in the above are deleted)

II. Natural Environment

Category of environmental impact	Evaluation				Remarks
	A	B	C	D	
4. Biological and Ecological Issues					
(1) Social Aspects					
1. Deterioration or degradation of vegetation				<input type="radio"/>	There is no change in the irrigation area
2. Negative impacts on important or indigenous fauna and flora				<input type="radio"/>	There is no important or indigenous fauna and flora in area
3. Degradation of ecosystem with biological diversity			<input type="radio"/>		There is no problem in the neighboring resemblance area.
4. Proliferation of exotic and/or hazardous species				<input type="radio"/>	There is no application.
5. Encroachment on wetland and eat swamp				<input type="radio"/>	There is no application.
6. Encroachment on tropical forests			<input type="radio"/>		There is no application.
7. Destruction or degradation of mangrove forests				<input type="radio"/>	There is no application.
8. Degradation of coral reef				<input type="radio"/>	There is no application.
9. Others				<input type="radio"/>	There is no application.
5. Soil and Land Resources					
(1) Soil Resources					
1. Soil erosion				<input type="radio"/>	It is careful at the time of cultivation reopening.
2. Soil salinization				<input type="radio"/>	It doesn't occur in the neighboring area.
3. Deterioration of soil fertility			<input type="radio"/>		careful of the influence due to the improvement of the planting rate.
4. Soil contamination by agrochemicals				<input type="radio"/>	It doesn't occur in the neighboring area.
5. Others				<input type="radio"/>	There is no application.
(2) Land Resources					
1. Devastation or deseruification of land				<input type="radio"/>	There is no application.
2. Devastation of hinterland			<input type="radio"/>		Increase in the fuel consumption due to the life improvement.
3. Ground subsidence				<input type="radio"/>	There is no application.
4. Others				<input type="radio"/>	There is no application.
6. Hydrology and Air and Water Quality Issues					
(1) Hydrology					
1. Changes in surface water hydrology				<input type="radio"/>	Influence investigation to the lower reaches is needed.
2. Changes in groundwater hydrology				<input type="radio"/>	An influence is little.
3. Inundation and flood			<input type="radio"/>		An influence is little.
4. Soil sedimentation				<input type="radio"/>	An influence is little.
5. Reverbed degradation				<input type="radio"/>	An influence is little.
6. Impedement of inland navigation				<input type="radio"/>	There is no application.
7. Others				<input type="radio"/>	There is no application.
(2) Water quality and temperature					
1. Water contamination and deterioration of water quality				<input type="radio"/>	Farm management survey is necessary.
2. Water eutrophication				<input type="radio"/>	There are a few influences from the past actual results.
3. Sea water intrusion				<input type="radio"/>	There are a few influences from the past actual results.
4. Low irrigation water temperature				<input type="radio"/>	There are a few influences from the past actual results.
5. Others				<input type="radio"/>	There is no application.
(3) Atmosphere					
1. Atmospherie pollution				<input type="radio"/>	There are a few influences from the past actual results.
2. Others				<input type="radio"/>	There is no application.

Evaluation Grade:

- A: Strong impact is expectet
- B: Litte Impact is expected
- C: Unknown (Not clear at this moment due to unspecified designs, but need tobe detailed designed)
- D: Impact is insignificant, and no need tobe a scope of the EIA

**THE STUDY
ON
URGENT REHABILITATION PLAN
IN
EAST TIMOR**

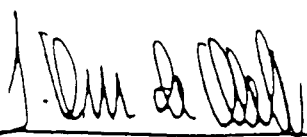
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FINAL REPORT

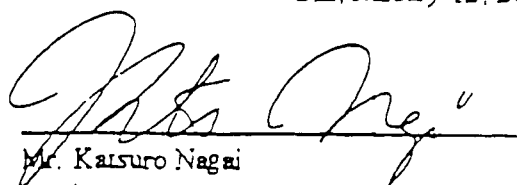
SCOPE OF WORK
FOR
THE STUDY
ON URGENT REHABILITATION PLAN
IN EAST TIMOR

AGREED UPON BETWEEN
UNITED NATIONS TRANSITIONAL ADMINISTRATION IN EAST TIMOR
AND
JAPAN INTERNATIONAL COOPERATION AGENCY

Dili, January 12, 2000



Mr. Sergio Vieira de Mello
Special Representative of the
Secretary-General
The United Nations Transitional
Administration in East Timor



Mr. Katsuro Nagai
Leader

The Japanese Economic Cooperation Mission

I. INTRODUCTION

In response to the request of the United Nations Transitional Administration in East Timor (hereinafter referred to as "UNTAET"), the Government of Japan decided to conduct "The Study on Urgent Rehabilitation Plan in East Timor" (hereinafter referred to as "the Study") in accordance with the relevant laws and regulations in force in Japan.

Accordingly, the 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 UNTAET.

The present document sets forth the scope of work for the Study.

II. OBJECTIVE OF THE STUDY

The objective of the study is formulating urgent rehabilitation plan for roads, bridges, ports, irrigation and power of East Timor in order to contribute to UNTAET's infrastructure rehabilitation plan. The study should be done, taking into account the work by the other international organizations.

III. STUDY AREA

The Study will cover East Timor.

IV. SCOPE OF THE STUDY

1. Study on Present Situation:

In order to identify urgent rehabilitation projects, the following will be done, using the results of the studies carried out previously by the other organizations, in particular, UNDP and the World Bank. Such work will be carried out in close coordination with UNTAET as well as UNDP and the World Bank. The work plan will be adjusted to meet their priorities, if so requested.

- (1) Site survey
- (2) Supplementary traffic survey
- (3) Natural condition data such as geography, geology, climate and etc.
- (4) Review of inventory data base
- (5) Evaluation of present condition

2. Planning of Urgent Rehabilitation Projects:

The followings will be done for the projects identified in (1) mentioned above.

- (1) Consideration of design condition
- (2) Consideration of design options
 - (a) Preparation of alternatives
 - (b) Comparison of alternatives in view of following items
 - a) IEE (Initial Environmental Examination)
 - b) Preliminary cost estimate
 - c) Preliminary economic analysis
- (3) Planning of urgent rehabilitation program which includes preliminary design of the projects

3. Overall Recommendation

V. STUDY SCHEDULE

The Study will be carried out in accordance with the tentative schedule as attached in the Annex I. The schedule is tentative and subject to be modified when both sides agree upon any necessity that may arise during the course of the Study.

VI. REPORTS AND FINAL PRODUCTS

Working in close coordination with UNDP and the World Bank, JICA shall prepare and submit the following reports in English to UNTAET :

1. Inception Report:

Twenty (20) copies at the commencement of the study in East Timor. This report will describe the Study schedule, methodology and Study Team members assignment as well as the outline of the field survey.

2. Draft Final Report :

Twenty (20) copies at the end of work in East Timor. The UNTAET side shall submit their comments within one (1) month after the receipt of the Draft Final Report.

3. Final Report:

Thirty (30) copies within one (1) month after the receipt of the comments on the Draft Final Report.

VII. UNDERTAKINGS OF UNTAET

1. To facilitate the smooth conduct of the Study, UNTAET will take the following necessary measures:

- (1) to secure the safety of the Japanese Study team (hereinafter referred to as "the Team");
- (2) to permit the members of the Team to enter, leave and sojourn in East Timor for the duration of their assignment therein, and exempt them from foreign registration requirements and consular fees;
- (3) to exempt the members of the Team from taxes, duties, fees and any other charges on equipment, vehicles, machinery and other materials brought into and out of East Timor for the conduct of the Study;
- (4) to exempt the members of the Team from income tax and charges of any kind imposed on or in connection with any emoluments or allowances paid to the members of the Team for their services in connection with the implementation of the Study;
- (5) to provide necessary facilities to the Team for the remittances as well as the utilization of the funds introduced into East Timor from Japan in connection with the implementation of the Study;
- (6) to secure permission for the Team to enter into private properties or restricted areas for the implementation of the Study;
- (7) to secure permission for the Team to take all data and documents including photographs and maps related to the Study out of East Timor to Japan;

(8) to provide medical services as needed. Its expenses shall be chargeable to the members of the Team.

2. UNTAET shall bear claims, if any arises, against the members of the 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 member of the Team.

3. UNTAET shall act as a counterpart agency to the Japanese Study Team and also as a coordinating body in relation with other governmental and non-governmental organizations concerned for the smooth implementation of the Study.

4. UNTAET shall, at its own expense, provide the Team with the following, in cooperation with other organizations concerned:

- (1) Available data and information related to the Study
- (2) Counterpart personnel and supporting staff
- (3) Credentials or identification cards to the member of the Team

VIII. UNDERTAKINGS OF JICA

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

1. to dispatch, at its own expense, the Team to East Timor,
2. to pursue technology transfer to counterparts personnel in the course of the Study.

IX. CONSULTATION

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

THE STUDY ON
URGENT REHABILITATION PLAN
IN EAST TIMOR

TENTATIVE SCHEDULE

MONTH	1	2	3	4	5	6
DESCRIPTION						
WORK IN EAST TIMOR						
WORK IN JAPAN						
REPORT PRESENTATION	▲ IC/R				▲ DF/R	▲ F/R

NOTE:
IC/R : Inception Report
DF/R : Draft Final Report
F/R : Final Report