









Town: Dili	No. & Facility: 01- Bemos Intake	Year of Construction 1986	Financed by:
Existing Condition: <i>Structure:</i> concrete weir <i>Shape:</i> <i>Dimension:</i> <i>Capacity:</i> 60L/sec intake rate <i>Function:</i> raw water intake <i>Ground level:</i> <i>Accessories:</i> Collecting chamber with two inlets laid at the upper basin Grit chamber at 50m downstream		Photograph: 	
		(Date: Nov 2000)	
Evaluation: Working but due to flood, concrete apron is damaged.			
Rehabilitation Plan: 1) <i>Basic Calculation</i> Minor repair is required. It is in urgent need to avoid foreign matters such as silts, sand and leaves from entering into the collection chamber and to protect the inlets from the flood. Stones and gravels with sufficient size should be laid surrounding the inlet perforated pipes. 2) <i>Civil Work:</i> Repair of weir and concrete apron Excavation 3m x 3m x 2m depth and filled by stones and gravel 3) <i>Piping work:</i> none 4) <i>Mechanical work:</i> none 5) <i>Electrical work:</i> none 6) <i>Miscellaneous:</i> none			
Estimated cost: US\$16,532		Construction schedule: 	
		Priority: A-2	


Town: Dili	No. & Facility: 02 - Bemori Intake	Year of Construction	Financed by:
Existing Condition: Structure: concrete Shape: Dimension: Capacity: Function: Ground level: Accessories:		Photograph:  Bemori 1 Intake  Bemori 2 intake (Date: May 2000)	
Evaluation: Working, not requiring rehabilitation. A number of leaks from transmission mains are repaired by JICA Study Team in June-December, 2000			
Rehabilitation Plan: 1) <i>Basic Calculation</i> No rehabilitation is required. 2) <i>Civil Work</i> : none 3) <i>Piping work</i> : none 4) <i>Mechanical work</i> : none 5) <i>Electrical work</i> : none 6) <i>Miscellaneous</i> : none			
Estimated cost: None		Construction schedule:	Priority: -



Town: Dili	No. & Facility: 03 - Benemauk Intake	Year of Construction	Financed by:
Existing Condition: Structure: Concrete made Shape: Dimension: Capacity: Function: Ground level: Accessories: Intake chamber		Photograph: 	
		(Date: May 2000)	
Evaluation: Working but requires rehabilitation.			
Rehabilitation Plan: 1) <i>Basic Calculation</i> Silts and sands are entering into the intake chamber because of openings of the upper slab of the intake conduit 2) <i>Civil Work:</i> Excavation of upper basin of the intake weir (7m x 4m x 1.5m depth) Concrete pouring on the openings to close conduits Backfill by gravel and stones 3) <i>Piping work</i> Installation of perforated GS pipes in the upper basin 3m x 3 lines 4) <i>Mechanical work:</i> none 5) <i>Electrical work:</i> none 6) <i>Miscellaneous:</i> none			
Estimated cost: US\$2,595		Construction schedule:	Priority: A-2


Town: Dili	No. & Facility: 04 - Kuluhun A	Year of Construction	Financed by:
Existing Condition: Function: Deep well pumped to Taibesi Reservoir. Capacity: 30L/sec x 26kw Drilled depth: 60m Ground level: Accessories: Delivery main: 200mm		Photograph: 	
		(Date: May 2000)	
Evaluation: Working but requires rehabilitation.			
Rehabilitation Plan: 1) <i>Basic Calculation</i> Rehabilitation of pump and generator sets are required. 2) <i>Civil Work:</i> none 3) <i>Piping work</i> Pipe replacement: 250mm GS x 50m 4) <i>Mechanical work:</i> Submersible pump should be replaced by new one. Type: submersible pump Capacity: 1.0m ³ /min x 10.0kg/cm ² 5) <i>Electrical work:</i> Watt-hour Meter Box x1 Fuel Tank x1 Main Power Switch Panel x1 Pump Control Board x1 Generator Set x1 6) <i>Miscellaneous:</i> none			
Estimated cost: US\$12,000		Construction schedule: 	
		Priority: A-1	


Town: Dili	No. & Facility: 05- Kuluhun B	Year of Construction 1998	Financed by:
Existing Condition: Function: Deep well pumped to Becora Res. Capacity: 19L/sec x 38kw Drilled depth: 130m Ground level: Accessories: Delivery main: 150mm		Photograph:  (Date: May 2000)	
Evaluation: Working normally.			
Rehabilitation Plan: 1) <i>Basic Calculation</i> No rehabilitation is required. 2) <i>Civil Work:</i> none 3) <i>Piping work</i> none 4) <i>Mechanical work:</i> none 5) <i>Electrical work:</i> none 6) <i>Miscellaneous:</i> none			
Estimated cost: None		Construction schedule:	Priority: -



Town: Dili	No. & Facility: 06-Comoro A & B	Year of Construction 1988	Financed by:
Existing Condition: <i>Function:</i> Deep wells <i>Capacity:</i> 35L/sec x 36kw (A) 50L/sec x 56kw (B) <i>Drilled depth:</i> 74m (A), 78m (B) <i>Ground level:</i> <i>Accessories:</i> Delivery main: 250mm (A), 200mm (B)		Photograph: <div> Comoro A</div> <div> Comoro B</div> <div>(Date: May 2000)</div>	
Evaluation: Comoro A working normally but requires rehabilitation. Comoro B used exclusively for the PKF with water truck refilling station			
Rehabilitation Plan: 1) <i>Basic Calculation</i> Comoro B should be used for the public after PKF left. Comoro A rehabilitation includes replacement of the existing pump and pipework. 2) <i>Civil Work:</i> none 3) <i>Piping work:</i> Pipe replacement at Comoro A: 300mm GS x 50m 4) <i>Mechanical work:</i> Comoro A: Submersible pump should be replaced by new one: Type: submersible pump Capacity: 2.3m3/min x 2.0kg/cm2 5) <i>Electrical work:</i> Rehabilitation of Comoro A well include the following: Watt-hour Meter Box x1 Fuel Tank x1 Main Power Switch Panel x1 Pump Control Board x1 Generator Set x1 6) <i>Miscellaneous:</i> none			
Estimated cost: US\$12,000		Construction schedule:	Priority: A-1


Town: Dili	No. & Facility: 07 - Comoro C	Year of Construction 1995	Financed by:
Existing Condition: Function: Deep well Capacity: Drilled depth: Ground level: Accessories:		Photograph: 	
		(Date: May 2000)	
Evaluation: Not presently used because of low production rate, and pumps are removed. According to the existing report, rehabilitation of old Comoro C well was carried out with the result far less than the designed production rate (20/Lsec).			
Rehabilitation Plan: 1) <i>Basic Calculation</i> As production of the Comoro wells (A, B, D, E) exceeds the water demand in the supply zone, this well will be abandoned. 2) <i>Civil Work:</i> none 3) <i>Piping work:</i> none 4) <i>Mechanical work:</i> none 5) <i>Electrical work:</i> none 6) <i>Miscellaneous:</i> none			
Estimated cost: None		Construction schedule: 	
		Priority: -	


Town: Dili	No. & Facility: 08 - Comoro D & E	Year of Construction 1996 (E)	Financed by:
Existing Condition: <i>Function:</i> Deep wells pumped to Comoro Res. <i>Capacity:</i> 30L/sec x 35kw (D & E) <i>Drilled depth:</i> 93m (D), 91m (E) <i>Ground level:</i> <i>Accessories:</i> Delivery main: 200mm (D), 200mm (E)		Photograph:  Comoro D  Comoro E (Date: May 2000)	
Evaluation: Comoro D, equipped with new generator for emergency operation. Comoro E, working but requires rehabilitation.			
Rehabilitation Plan: 1) <i>Basic Calculation</i> Rehabilitation of Comoro E is required. 2) <i>Civil Work:</i> none 3) <i>Piping work</i> Comoro E: Existing pipeworks are undersized and need replacement 300mm GS x 50m 4) <i>Mechanical work:</i> Comoro E: Submersible pump installation Type: submersible Capacity: unknown, but more than 2.0m ³ /min 5) <i>Electrical work:</i> Comoro E: Watt-hour Meter Box x1 Fuel Tank x1 Main Power Switch Panel x1 Pump Control Board x1 Generator Set x1 6) <i>Miscellaneous:</i> none			
Estimated cost: US\$37,000		Construction schedule: Priority: A-1	


Town: Dili	No. & Facility: 09 - Bidau 1	Year of Construction	Financed by:
Existing Condition: Function: Deep well pumped to Bidaumasau Res. Capacity: 5.5L/sec x 8kw Drilled depth: 78m Ground level: Accessories: Delivery main: 150mm		Photograph:  (Date: May 2000)	
Evaluation: Abandoned with the pump installation removed			
Rehabilitation Plan: 1) <i>Basic Calculation</i> Rehabilitation of this well was planned to be carried out in the 2000JICA project. Because of the problem related to land acquisition, the rehabilitation was canceled. Instead, new deep well was constructed close to the existing. It is expected to start operation on January 2001. 2) <i>Civil Work:</i> none 3) <i>Piping work:</i> none 4) <i>Mechanical work:</i> none 5) <i>Electrical work:</i> none 6) <i>Miscellaneous:</i> none			
Estimated cost: None		Construction schedule:	Priority: -


Town: Dili	No. & Facility: 10 - Bidau 2	Year of Construction	Financed by:
Existing Condition: Function: Deep well pumped to Dili General Hospital Capacity: 9.7L/sec x 20kw Drilled depth: 58m Ground level: Accessories: Delivery main: 100mm		Photograph:  (Date: May 2000)	
Evaluation: Used exclusively for the Dili General Hospital			
Rehabilitation Plan: 1) <i>Basic Calculation</i> Rehabilitation is not required. 2) <i>Civil Work:</i> none 3) <i>Piping work:</i> none 4) <i>Mechanical work:</i> none 5) <i>Electrical work:</i> none 6) <i>Miscellaneous:</i> none			
Estimated cost: None		Construction schedule:	Priority: -


Town: Dili	No. & Facility: 11 - Bemos Raw Water Transmission	Year of Construction	Financed by:
Existing Condition: Structure: Shape: Dimension: 8 inch GS Capacity: Function: Drilled depth: Ground level: Accessories: 5 air release valves two pipe bridges blow-off valves		Photograph:  Bemos transmission pipe bridge  Bemos transmission 6 inch GS (Date: Oct 2000)	
Evaluation: Leakage from the main, is observed particularly from the air release valves. Pipelines are installed on the riverbed or on the bank slope, vulnerable to the flood.			
Rehabilitation Plan: 1) <i>Basic Consideration</i> As the pipeline installed at the flood prone area, full scale rehabilitation is considered ineffective. To minimize leakage, air release valves will be replaced. 2) <i>Civil Work:</i> none 3) <i>Piping work:</i> Repair of malfunctioning air release valves (5) 4) <i>Mechanical work:</i> none 5) <i>Electrical work:</i> none 6) <i>Miscellaneous:</i> none			
Estimated cost: US\$2,837		Construction schedule:	Priority: A-1


Town:	No. & Facility:	Year of Construction	Financed by:
Dili	12 - Bemos WTP	1982-84	PRI
Existing Condition:		Photograph:	
<p>Structure: Package treatment unit Process: Mixing-Flocculation-Sedimentation-Filtration Chemical in use: Alum, Calcium Hypochlorite, Lime Production Capacity: 19 L/s assessed from the surface area of filter sand Source of Water: Bemos River Ground level: Accessories: Reservoir (1000m³) Inlet chamber Package-type treatment plant 1.9m x 6.9m x 3.8m x 2sets Reservoir (500m³, 1000m³) Chemical flocculation, sedimentation Chlorinator</p>		 <p>(Date: May 2000)</p>	
Evaluation:			
The existing facilities are overloaded and operated at the rate, 50L/sec, resulting in poor quality of water production. Backwash pumps and chemical pumps are not working. Chemicals are fed manually at present.			
Rehabilitation Plan:			
1) Basic Consideration			
Most of the problems encountered are arising from poor operation practice. Flow control should be practiced to operate at the design rate.			
2) Civil Work:			
3) Piping work:			
Replacement of flow meters: 200mm - one set on the inlet, as the existing meters have decreased accuracy.			
4) Mechanical work:			
Installation of backwash pumps: 4.8m ³ /min x 8m head x 11kw - 2 sets Blower for backwash: 0.6m ³ /min x 0.55fkg/cm ² x 8.5kw - one set as standby			
5) Electrical work:			
For backwash pump operation,			
Watt-hour Meter Box x1		Fuel Tank x1	
Main Power Switch Panel x1		Pump, Compressor Control Board x1	
Generator Set x1		Pump, Compressor Local Control Board x1	
6) Miscellaneous: none			
Estimated cost:		Construction schedule:	
US\$120,027		Priority:	
		A-2	

Town: Dili	No. & Facility: 13 - Benamauk WTP	Year of Construction 1993	Financed by: PRI
Existing Condition: <i>Structure:</i> Package treatment unit made of steel <i>Process:</i> Mixing-Flocculation-Sedimentation-Filtration <i>Chemical in use:</i> Alum, Calcium Hypochlorite, Lime <i>Production Capacity:</i> 4 L/s assessed from the surface area of filter sand <i>Source of Water:</i> Benamauk intake <i>Ground level:</i> <i>Accessories:</i> Packaged-type treatment plant 1.9m x 6.9m x 3.8m x 2sets Chlorinators Reservoir No.1 and No.2		Photograph: 	
(Date: May 2000)			
Evaluation: Although working, mechanical equipment was removed during the post referendum violence. Chemicals are not being dosed on continuous basis.			
Rehabilitation Plan: 1) <i>Basic Calculation</i> As chemical facilities were completely demolished during the last violence, focus should be laid on rehabilitation of mechanical and electrical equipment for chemical dosage. 2) <i>Civil Work:</i> Protection of WTP from possible landslide due to flood at the Benamauk river Gabion and rivetment at the left bank of the river (60m length) 3) <i>Piping work:</i> none 4) <i>Mechanical work:</i> Chemical mixing tank with 0.5m ³ storage. All existing tanks, 4 in number, to be reconstructed. Feeder pumps: 6L/hr x 150w - 6 sets Motorized mixers: 0.5m ³ x0.75kw x 4 sets 5) <i>Electrical work:</i> Generator Set x2 Fuel Tank x2 Pump, Mixer Control Board x1 6) <i>Miscellaneous:</i> none			
Estimated cost: US\$101,102		Construction schedule: 	
		Priority: A-1	

Town: Dili	No. & Facility: 15 - Bemos I Reservoir	Year of Construction	Financed by:
Existing Condition: Structure: Reinforced Concrete Shape: Rectangular Dimension: 14.8m x 14.1m x 2.9m Capacity: 500m ³ Function: Source of Water: Bemos WTP, Bemos II, Comoro Ground level: Accessories: flow meter ventilation overflow		Photograph: 	
		(Date: May 2000)	
Evaluation: Turbid water coming from Bemos II is mixed with clean treated water.			
Rehabilitation Plan: 1) <i>Basic Calculation:</i> Minor repair is required at the malfunctioning flow meters. 2) <i>Civil Work:</i> none 3) <i>Piping work</i> Replacement of flow meters: 150mm - two sets, referential type on the outlets 4) <i>Mechanical work:</i> none 5) <i>Electrical work:</i> none 6) <i>Miscellaneous:</i> none			
Estimated cost: US\$8,936		Construction schedule:	Priority: A-2

Town: Dili	No. & Facility: 16 - Bemos II Reservoir	Year of Construction	Financed by:
Existing Condition: Structure: Reinforced Concrete Shape: Rectangular Dimension: 17.7m x 20.4m x 2.9m Capacity: 1,000m ³ Function: Source of Water: Bemos Intake , Comoro B Ground level: Accessories: flow meter ventilation overflow		Photograph: 	
		(Date: May 2000)	
Evaluation: No supply from Comoro B since water is used by UNTAET. Thick layer of deposits in the tank due to absence of maintenance since commissioned.			
Rehabilitation Plan: 1) <i>Basic Calculation</i> As the storage capacity in the supply zone exceeds the requirement, no rehabilitation is proposed. 2) <i>Civil Work:</i> none 3) <i>Piping work:</i> none 4) <i>Mechanical work:</i> none 5) <i>Electrical work:</i> none 6) <i>Miscellaneous:</i> none			
Estimated cost: None		Construction schedule:	Priority: -

Town: Dili	No. & Facility: 17 - Lahane Reservoir	Year of Construction	Financed by: Portugal
Existing Condition: Structure: Reinforced Concrete Shape: Rectangular Dimension: 22m x 14.6m x 3.5m Capacity: 800m ³ Function: Source of Water: Lahane WTP Ground level: Accessories: 2 flow meters ventilation		Photograph: 	
		(Date: June 2000)	
Evaluation: Never cleaned since 1995. Washout (2 x 2") not adequately designed as compared to inlet 2 x 6"			
Rehabilitation Plan: 1) <i>Basic Consideration:</i> Major problem is related to low skill of operational staff assigned. On-the job training is required. 2) <i>Civil Work:</i> none 3) <i>Piping work</i> Replacement of washouts by sufficient size of GSP (6 inch x 5m - 2 lines) 4) <i>Mechanical work:</i> none 5) <i>Electrical work:</i> none 6) <i>Miscellaneous:</i> none			
Estimated cost: US\$744		Construction schedule: 	
		Priority: A-2	

Town: Dili	No. & Facility: 19 - Benemauk II Reservoir	Year of Construction 1993	Financed by: PRI
Existing Condition: Structure: Reinforced Concrete Shape: Rectangular Dimension: 9.1m x 8.0m x 2.7m Capacity: 100m ³ Function: Source of Water: Benemauk WTP Ground level: Accessories: Chlorinator Ventilation Flow meters on the outlets		Photograph: 	
		(Date: May 2000)	
Evaluation: Maintenance carried out monthly. One chlorinator is not used regularly.			
Rehabilitation Plan: 1) <i>Basic Calculation</i> Repair and rehabilitation of WTP was recently carried out but minor rehabilitation of the reservoirs will be further required. 2) <i>Civil Work:</i> none 3) <i>Piping work</i> Replacement of malfunctioning flow meters: referential type, 100mm in diameter x 2 sets to be installed on the outlets 4) <i>Mechanical work:</i> none 5) <i>Electrical work:</i> none 6) <i>Miscellaneous:</i> none			
Estimated cost: US\$4,642		Construction schedule: 	
		Priority: A-2	

