LIST OF ANNEXES

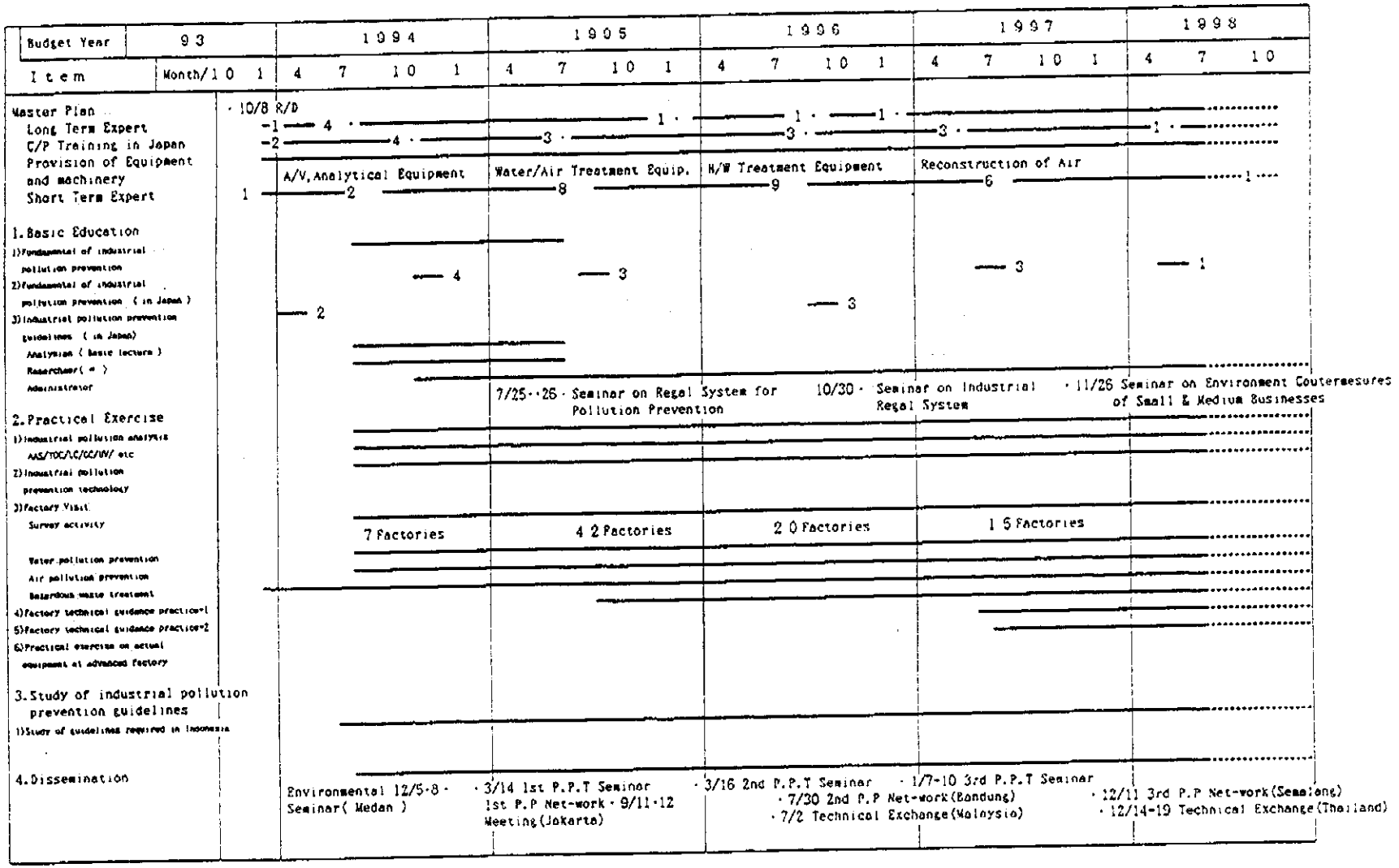
(1) PDM

Annex 1 Project design Matrix (PDM) of the Project on Training in Industrial Pollution PreventionTechnology in the Republic of Indonesia

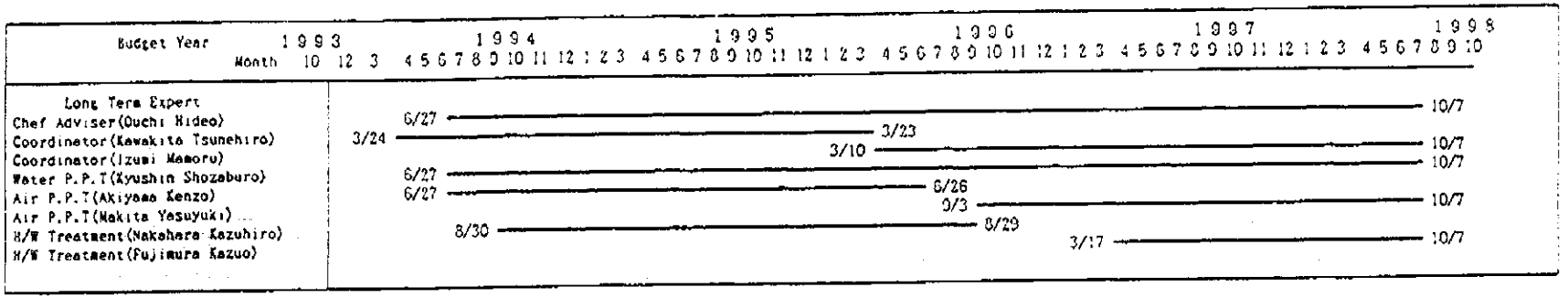
Summary of the Project	Verifiable Indicators	Means of Verification	Important Assumption
Overall Goal: Factories in Indonesia properly understand how to prevent industrial pollution and observe emission regulations.	1) Environmental regulations and standards are strengthened. 2) Number of factories which observe emission regulations increases.	1) Law, regulations, guidelines, etc. issued by the Indonesian Government 2) Statistics on factory survey produced by BBIK	The current environmental conservation policy in Indonesia is maintained.
Project Purpose: Technical and administrative capacities of industrial pollution prevention of the Agency for Industrial and Trade Research and Development are enhanced.	1) Number of requests for analysis increases. Items of analytical methods increase. 2) Number of the factories which are given guidance increases. 3) Seminars are organized to reduce industrial pollution.	1) Record of requests for analysis 2) Guidance reports to factories 3) Seminar attendance lists, proceedings, etc.	1) BBIK's local offices support BBIK activities 2) BBIK continues to disseminate information on pollution prevention. 3) Cooperation with BAPEDAL is maintained.
Outputs: 0. The project management is well strengthened. 1. BBIK staff are well trained for: 1-1. analytical methods -2. application technology -3 the methods of operations and maintenance of facilities 2. Administrators learn industrial pollution prevention policy. 3. Factory survey techniques are acquired; a pollution level in a factory can be grasped. 4. The equipment procured through the project is properly used and maintained. 5. Information on techniques for industrial pollution prevention is disseminated and popularized.	0 Project budget and personnel are secured and well managed as planned. 1-1 Acquired analytical techniques increased by. -2 Acquired application techniques for industrial pollution prevention increased. Number of the capable staff increased. -3 Number of staff who can operate and maintain facilities and equipment increased. 2-1 Policy recommendations for pollution prevention are produced and submitted. 3 Number of staff who can give guidance to factories increased. Number of factories given guidance increased. 4 Condition of equipment use 5 Number and variety of publications produced and disseminated to factories.	1) Project records 2) Counterparts list 3) Records of technology transfer from the experts to the C/Ps 4) Records of factory survey 5) Produced policy recommendations 6) Equipment list 7) Equipment operation/maintenance records 8) Publication distribution records 9) Interviews with experts, counterparts, factories 10) Number of manuals produced	1) Factories cooperate BBIK's factory survey and guidance. 2) Trained counterparts continue to work for BBIK.
Activities: 0-1 Arrange C/Ps and dispatch experts as scheduled 0-2 Allocate and manage the project budget 1-1 Analyze waste water, flue gases and hazardous waste -2-1 Train C/Ps on experimental equipment for pollution prevention technology -2-2 Practice training on process analysis and process improvements in factories -3 Train C/Ps on operation and maintenance of facilities 2-1 Introduce laws and regulations, and pollution prevention measures to C/Ps -2 Introduce pollution related policies to C/Ps -3 Study other countries' regulations 3. Conduct factor survey 4. manage and maintain equipment 5. Produce a promotion video and organize seminars	Inputs: Indonesian Side: 1. Local cost: 1,739 Million Rp. 2. Counterpart personnel 1) Management - 2 2) Administration - 5 3) Technical staff - 15 4) Analysts - 9 5) Supporting staff - 8 Total 39 3. Building, facilities 4. Necessary equipment and maintenance cost Japanese side: 1. Experts (1) Long-term: Chief advisor Project coordinator Water pollution prevention technology specialist Air pollution prevention technology specialist Hazardous waste treatment technology specialist (2) Short-term: 26 2. Training in Japan: 16 3. Equipment: 352 Million Yen Combustion gas cleaning experiment syste Water treatment experiment system Land-fill experiment system Analytical equipment Training equipment	1) Custom clearance for the procured equipment is conducted without major delay. 2) Sufficient number and quality of C/P personnel are secured. Preconditions Office space for the project implementation is secured.

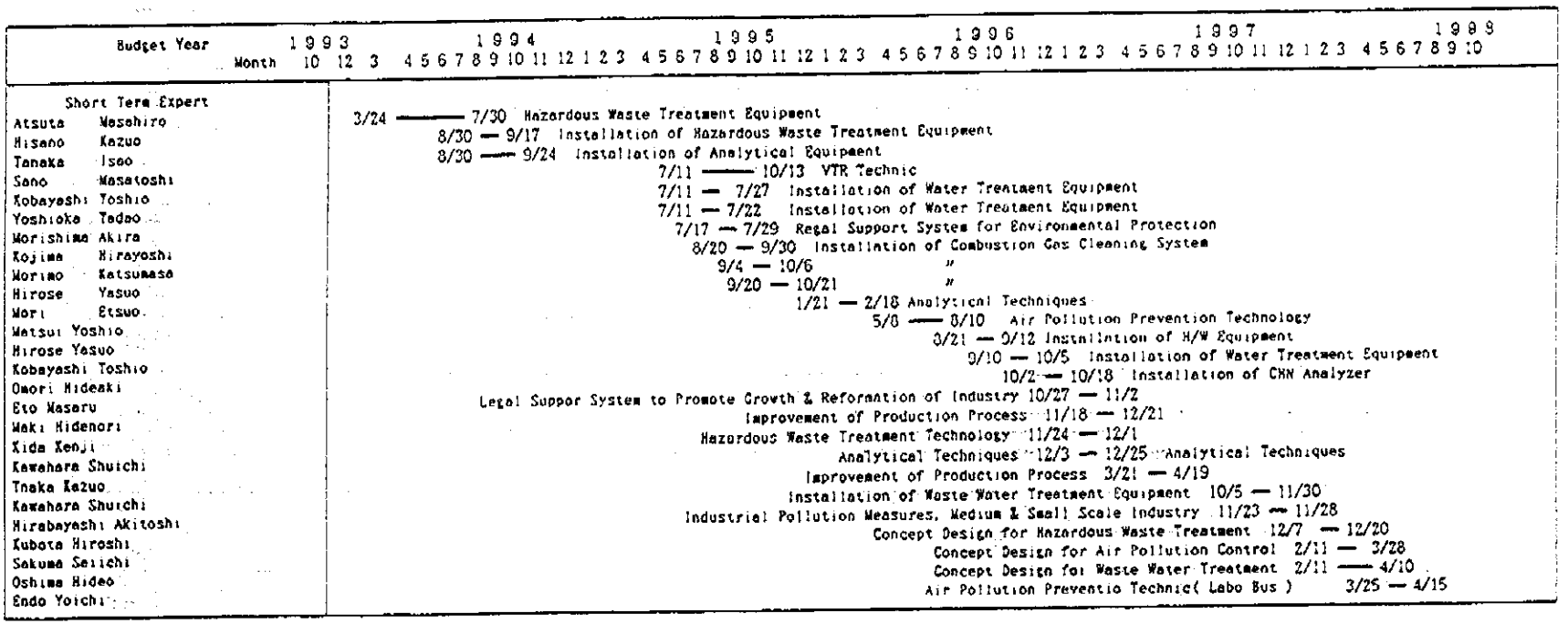
（2）日本側投入実績

Annex 2　Japanese side inputs



Annex 2 (2/16)


Budget Year
1993 1994 1995 1996 1997 1998
Month
10 12 3 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10
Long Term Expert
Chef Adviser(Ouchi Hideo) 6/27 — 10/7
Coordinator(Kawakita Tsunehiro) 3/24 — 3/23
Coordinator(Izumi Mamoru) 3/10 — 10/7
Water P.P.T(Kyushin Shozaburo) 6/27 — 10/7
Air P.P.T(Akiyama Kenzo) 6/27 — 6/26
Air P.P.T(Makita Yasuyuki) 9/3 — 10/7
H/W Treatment(Nakahara Kazuhiro) 8/30 — 8/29
H/W Treatment(Fujimura Kazuo) 3/17 — 10/7


Budget Year
1993 1994 1995 1996 1997 1998
Month
10 12 3 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10
Short Term Expert
Atsuta Masahiro
Hisano Kazuo
Tanaka Iseo
Sano Masatoshi
Kobayashi Toshio
Yoshioka Tadao
Morishima Akira
Kojima Hirayoshi
Morimo Katsumasa
Hirose Yasuo
Mori Etsuo
Matsui Yoshio
Hirose Yasuo
Kobayashi Toshio
Omori Hideaki
Eto Naseru
Maki Hidenori
Kida Kenji
Kawahara Shuichi
Tnaka Kazuo
Kawahara Shuichi
Hirabayashi Akitoshi
Kubota Hiroshi
Sakuma Seiichi
Oshima Hideo
Endo Yoichi
3/24 — 7/30 Hazardous Waste Treatment Equipment
8/30 — 9/17 Installation of Hazardous Waste Treatment Equipment
8/30 — 9/24 Installation of Analytical Equipment
7/11 — 10/13 VTR Technic
7/11 — 7/27 Installation of Water Treatment Equipment
7/11 — 7/22 Installation of Water Treatment Equipment
7/17 — 7/29 Regal Support System for Environmental Protection
8/20 — 9/30 Installation of Combustion Gas Cleaning System
9/4 — 10/6 〃
9/20 — 10/21 〃
1/21 — 2/18 Analytical Techniques
5/8 — 8/10 Air Pollution Prevention Technology
8/21 — 9/12 Installation of H/W Equipment
9/10 — 10/5 Installation of Water Treatment Equipment
10/2 — 10/18 Installation of CHN Analyzer
Legal Suppor System to Promote Growth & Reforamtion of Industry 10/27 — 11/2
Improvement of Production Process 11/18 — 12/21
Hazardous Waste Treatment Technology 11/24 — 12/1
Analytical Techniques 12/3 — 12/25 Analytical Techniques
Improvement of Production Process 3/21 — 4/19
Installation of Waste Water Treatment Equipment 10/5 — 11/30
Industrial Pollution Measures, Medium & Small Scale Industry 11/23 — 11/28
Concept Design for Hazardous Waste Treatment 12/7 — 12/20
Concept Design for Air Pollution Control 2/11 — 3/28
Concept Design for Waste Water Treatment 2/11 — 4/10
Air Pollution Preventio Technic(Labo Bus) 3/25 — 4/15

Annex 2 (3/16)

C/P Training and Mission

Budget Year	1993			1994												1995												1996												1997												1998										
Month	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
C/P Training in Japan																																																														
Mr. Soedarsadji			3/22	—	—	4/9																																																							
Ms. Hayatun Nusuf			3/22	—	—	4/9																																																						
Ms. Susuairah Suryandari													10/24	—	—	—	—	11/26																																													
Ms. Rahyani Ermawati													10/24	—	—	—	—	—	—	12/22																																										
Mr. Trie Widianto													10/24	—	—	—	—	—	—	12/22																																										
Ms. Sumingkrat													10/24	—	—	—	—	—	—	12/22																																									
Ms. Emmy Ratnawati																			7/11	—	—	—	—	—	—	10/9																																		
Ms. Rofienda																			7/11	—	—	—	—	—	—	10/9																																		
Ms. Th Elly Witasari																			7/11	—	—	—	—	—	—	10/9																																		
Ms. Naily Chilmiyati																															9/2	—	—	—	—	—	—	10/7																					
Ms. Luciawati																															9/2	—	—	—	—	—	—	10/7																					
Ms. Sri Wahyu Kustyawati																															9/2	—	—	—	—	—	—	10/7																					
Mr. URW Budiono																															9/22	—	—	—	—	—	—	—	—	12/18																			
Mr. Walidin																																											7/1	—	—	—	—	—	—	9/30										
Mr. Moch Toton																																											7/1	—	—	—	—	—	—	9/30										
Ms. Dwinna Rafmi																																											7/1	—	—	—	—	—	—	9/30										
Ms. Siti Naimah																																																							5/24	—	—	—	—	—	—	7/
Mission	Implementation Survey Team (R/D) 9/30 — 10/9						Consultation Team 11/27 — 12/5												Technical Guidance Team (Mid Evaluation) 12/5 — 12/14												Technical Guidance Team 1/7 — 1/17												Technical Guidance Team 9/29 — 10/10												Final Evaluation Team 7/27 — 8/14										
Leader Meeting							1/30-2/3 Tokyo ·												2/1-8 Tokyo ·												2/3-7 Tokyo ·												2/3-13 Tokyo ·																						
Coordinator Meeting							10/13-17 · Toronto																																						· 10/28-31 Malaysia																						

Annex 2 (4/16)

Main equipment provided by JICA

(Equipment Amount more than ¥1,600,000.)

Year	Number	Name of Equipment (Brand · Model)	Amount	Quantity	Place of Instlation	Using Condition	Managing Condition	Remarks
1993	1	Mobile (TOYOTA KIJANG LSX-G)	Rp 35,750,000.	2		A	Good	
	2	Total Organic Carbon Analyzer(SHIMADZU TOC-5000)	¥ 4,649,620.	1	Analisis Room	A	〃	
	3	Automatic Atomic Absorption (SHIMADZU 501 F)	8,137,400.	1	〃	A	〃	
	4	Spectrophotometer (SHIMADZU UV-2201)	2,207,080.	1	〃	A	〃	
	5	Gas Chromatograph (SHIMADZU GC-14BPT)	3,255,390.	1	〃	A	〃	
	6	〃 (〃 GC-14BFPF)	3,383,990.	1	〃	A	〃	
	7	Liqud Chrometograph(SHIMADZU LC-10AD)	6,489,300.	1	〃	A	〃	

Annex 2 (5/16)

(Equipment Amount more than ¥1,600,000.)

Year	Number	Name of Equipment (Brand · Model)	Amount	Quanty	Place of Instlation	Using Condition	Managing Condition	Remarks
1994	8	Local Panel (FARNES TECHNO)	2,200,000.	1	Air Experiment Room	A	Good	
	9	Furnace (DAIT SNL-50)	7,500,000.	1	〃	A	〃	
	10	Control Damper and others (FARNES TECHNO)	2,200,000.	1	〃	A	〃	
	11	Gas Cooler (〃 1-(2)-1)	4,000,000.	1	〃	A	〃	
	12	Bag Filter (〃 1112T)	4,100,000.	1	〃	A	〃	Once Damaged, Repaired
	13	Electrostatic Precipitator (〃 2020HD)	8,000,000.	1	〃	A	〃	
	14	Mixing Tnak (〃 1-(6)-1)	7,400,000.	1	〃	A	〃	
	15	Dust Sumpling Measurment Unit (CFP-301 SHIMADZU)	1,800,000.	1	〃	A	〃	
	16	Dust Monitor (P-512 SHIMADZU)	3,200,000.	1	〃	A	〃	
	17	SO2 Gas Analizer (IRA-107 SHIMAZDU)	2,500,700.	1	〃	A	〃	
	18	NoX Analizer (NDA-7000 SHIMADZU)	3,695,900.	1	〃	A	〃	
	19	Filtratin Equipment (AR-447S ASAHI RIKA)	2,384,000.	1	Water Treatment Room	A	〃	
	20	Activated Sludge Process Equipment (AR-10S ASAHI RIKA)	4,613,000.	1	〃	A	〃	
	21	Algal Culture Aparatus (GT-40S MIYAMOTO RIKEN)	3,300,000.	1	〃	A	〃	
	22	Neutralizatin Process equipment (RE-05 SHINKO PANTEC)	5,912,000.	1	〃	A	〃	
	23	Flotation Equipment (CAS-30 SHINKO PANTEC)	5,547,000.	1	〃	B	〃	
	24	Land Fill Experiment System C	3,600,000.	1	H/W Treatment Room	A	〃	
	25	Coagulation Precipitator Equipment (ASAHI RIKA AR-459S)	3,162,000.	1				

Annex 2 (6/16)

(Equipment Amount more than ¥1,600,000.)

Year	Number	Name of Equipment (Brand · Model)	Amount		Place of Instiation	Using Condition	Managing Condition	Remarks
1995	25	Anaerobic Process Equipment (SHINKO PANTECH PAN-10)	¥ 14,702,000.	1	Water Treatment Room	A	Good	
	26	CHN Corder (MT-5 YANACO)	6,041,000.	1	Analysis Room	B	〃	
	27	Rotary Cutter Mill (ORIENTV-M26)	2,550,000.	2	H/W Treatment Room	C	〃	
	28	Vibrating Sieve(KOWA KF-400-3D)	2,550,000.	1	〃	A	〃	
	29	Land Fill Experiment System A(Furnas Thecno 3-(1)-1)	3,835,000.	2	〃	A	〃	
	30	〃 B(〃)	4,170,000.	2	〃	A	〃	
	31	Constant Temperature Chamber (AGX-226 ADVSNTEC)	4,700,000.	1	〃	A	〃	
	32	Filter Press(ZP-200P CE C.M.T CO,Ltd)	3,600,000.	1	〃	B	〃	
	33	Combation Oil Sulfurous Tester(HORIBA SLFA-1100H)	2,480,000.	1	Air Group Room	B	〃	

Annex 2 (7/16)

(Equipment amount more than ¥1,600,000.)

Year	Number	Name of Equipment (Brand · Model)	Amount		Place of Instlation	Using Condition	Managing Condition	Remarks
1996	34	Laboratorium Bus (HINO FB2-WGKZ)	Rp160,000,000.	1		A	Good	

Annex 2 (8/16)

(Equipment price more than ¥100,000. less than ¥1,600,000.)

Year	Name of Equipment(Bland / Model)	Price	Quantity	Lost or Damged	Present Quatity	Using Condition	Managing Condition	Remark
1993	TV SET (JVC AV-S29PRO)	Rp 3,255,000.	2		2	A	Good	
	VIDEO Deck (JVC HR-330)	3,037,500.	1		1	A	〃	
	VIDEO Camera (JVC KY-27ECH(PAL))	25,200,000.	1		1	A	〃	
	Editing Player (JVC BR-S822E)	14,175,000.	1		1	A	〃	
	Editing Recorder (JVC BR-S622E)	13,125,000.	1		1	A	〃	
	Time Base Corrector (JVC SA-T22E)	2,730,000.	1		1	A	〃	
	Editing Remote Unit (JVC RM-G860E)	7,612,500.	1		1	A	〃	
	Color Monitor(JVC TM-1500PS)	3,677,500.	1		1	A	〃	
	O.H.P (ELMO HR-A305 SOLAR)	4,180,000.	1		1	A	〃	
	Personal Computer (IBM PS/2 56)	7,580,000.	2		2	A	〃	
	Display(IBM 8515 14")	2,350,000.	2		2	A	〃	
	Micropone Set (SONY)	7,500,000.	1		1	A	〃	
	Copy Machine (CANNON NP-4050)	21,000,000.	1		1	A	〃	
	Document Feeder (CANNON)	4,400,000.	1		1	A	〃	
	Sorter 20 bin (CANNON)	5,000,000.	1		1	A	〃	
	Handy Type Copy Machine (Rex Rotary RP-830)	7,850,000.	1		1	C	〃	
	Labophot Microscope (NIKON Y2B-21)	¥ 728,000.	1		1	C	〃	
	〃 (NIKON Y2F-21)	762,000.	1		1	C	〃	
	Photomicrographic Attachment(NIKON MPX-DX-35)	590,000.	1		1	C	〃	
	Electronic Balance (TOKYO KEIKI EB-320H-A)	146,000.	2	1	1	A	〃	dameged by lightning
	Water Purifier (ADVANTEC GSH-200)	726,000.	1		1	A	〃	

Annex 2 (9/16)

(Equipment price more than ¥100,000. less than ¥1,600,000.)

Year	Name of Equipment(Bland / Model)	Price	Quant-ity	Lost or Damged	Present Quatity	Using Condition	Managing Condition	Remark
1994	Kerosene Tank (Farnace Techno 1-(1)-1 :100L)	¥ 300,000.	1		1	A	Good	
	Waste Oil Tank (〃 1-(1)-2 :100L)	300,000.	1		1	A	〃	
	Waste Water Tank (〃 1-(1)-3 :100L)	450,000.	1		1	A	〃	
	Air Compressor (TOSHIBA CDN-55SU1)	300,000.	1		1	A	〃	
	Waste Water Pump (Farnace Techno :4kg/㎠)	200,000.	1		1	A	〃	
	Burner (〃 :Max10L/h)	500,000.	1		1	A	〃	
	Induced Draft Fan (〃 :1040Nm3/h)	700,000.	1		1	A	〃	
	Stack (〃 :250φ×8500mm)	1,000,000.	1		1	A	〃	
	Piping Materials (〃)	800,000.	1					Used for assembling
	Duct Materials (〃)	900,000.	1					〃
	Wiring Materials (〃)	900,000.	1					〃
	Other Materials (〃)	1,360,000.	1					〃
	Water Tank (〃 :570φ×890mmH)	300,000.	1		1	A	Good	
	Control Equipment (〃)	500,000.	1		1	A	〃	
	Feed Pomp (〃 :1L/min)	600,000.	1		1	A	〃	
	Cyclone (〃 :425φ×2425mmH)	1,400,000.	1		1	A	〃	
	Stack Dust Sampler (〃)	920,000.	1		1	A	〃	
	Moisture Measurement Unit (〃)	600,000.	1		1	A	〃	
	Gas Sample Treatment Unit (CPF-310)	900,000.	1		1	A	〃	
	Drying Oven(YAMATO SD-410)	650,000.	1		1	A	〃	
	Smoke Tester	100,000.	1		1	A	〃	

Annex 2 (10/16)

(Equipment price more than ¥100.000. less than ¥1.600.000.)

Year	Name of Equipment(Bland / Model)	Price	Quant-ity	Lost or Damged	Present Quatity	Using Condition	Managing Condition	Remark
1 9 9 4	Dust Indicator (FS-1028)	¥ 200.000.	1		1	A	Good	
	SOZ Gas Recorder	350.000.	1		1	A	〃	
	Heating Type Sampling Probe for SO2 Analyzer	167.000.	1		1	A	〃	
	Pressure Regulator for SO2 Analyzer	130.000.	2		1	A	〃	
	Nox Gas Recorder	273.000.	1		1	A	〃	
	Pressure Regulator for NoX Analyzer	113.000.	1		1	A	〃	
	Orsat Analyzer (SHIBATA KAGAKU 7071-A)	350.000.	1		1	A	〃	
	Water Sprayer for Land-Fill C (Furnace Techno)	250.000.	1		1	A	〃	
	Water Tnak (〃 :500L)	450.000.	1		1	A	〃	
	Water Pump (〃 :Magnet Type 3000L/h X 1.5Kg/cm2G)	1,400,000.	1		1	A	〃	
	Handling Panel (〃 :800W X 350d X 1300h)	1,300,000.	1		1	A	〃	
	Piping Material (〃)	350.000.	1					Used for assembling
	Stand (〃)	100.000.	1					〃
	Gas Sumpling Devices(〃 :Batteries Type 1-5L/min)	1,400.000.	1		1	A	Good	
	Refrigerator (SANYO MPR-1010R)	1,089,000.	1		1	A	〃	
	Medical Freezer (SANYO MDF-U536)	430,500.	1		1	A	〃	
	Handy Aspirator (WP)	146.370.	1		1	A	〃	
	Cooled Incubator (MIR-55)	823,500.	1		1	A	〃	
	Pharmaceutical Refrigerator (SANYO MPR-411)	495.000.	2		2	A	〃	
	Laboratory Stirrer (600GF)	176,000.	1		1	A	〃	
	6-Ports Type Jar Tester (MIYAMOTO RIKA JMD-6)	538.000.	1		1	A	〃	

Annex 2 (11/16)

(Equipment price more than ¥100,000. less than ¥1,600,000.)

Year	Name of Equipment(Bland / Model)	Price	Quantity	Lost or Damged	Present Quatity	Using Condition	Managing Condition	Remark
1 9 9 4	Table-Top Centrifuge (H-103N)	¥ 209,000.	1		1	A	Good	
	Pump (LK-513 X 3, LK-52 X 2)	205,000.	5		5	A	〃	
	Drying Shelf (IKEDA RIKA DS-L)	173,000.	3		3	A	〃	
	COD Meter (MIYAMATO RIKEN MC-407)	715,000.	1		1	B	〃	
	COD Measuring Electric Water Bath (MIYAMOTO RIKEN CO-3)	542,000.	1		1	B	〃	
	Auto Buret	113,000.	2		2	B	〃	
	COD Printer(C-4070)	189,000.	1		1	A	〃	
	Auto Sampler (3700)	810,000.	1		1	A	〃	
	Base for Glass Bottles	116,300.	1		1	A	〃	
	Glass Bottle for Auto Sumpler (350ml)	247,500.	1		1	A	〃	
	PH Meter(F-22)	261,000.	2		2	A	〃	
	Flat Pen Recorder (SS-250-F-33100)	485,000.	1		3	A	〃	
	Presseure Sterilizer Pot (YAMATO SP-52)	520,000.	1		1	A	〃	
	Vinyl Chloride Welding Machine (NEW SUPER :300)	101,000.	1		1	C	〃	
	Oilfree Compresser (HITCHI 0.75OP-8.5S)	243,000.	1		1	A	〃	
	Handy Type Aspirator (WP-25)	106,500.	1		1	A	〃	
	Parsonal Recorder (PRR-5041)	488,860.	3		3	A	〃	
	Strage Cabinet (PRA-180)	345,000.	1		1	A	〃	
	Scale (USD-1100-20)	305,000.	1		1	B	〃	
	Dissolved Oxygen Meter (OM-14-L1)	271,000.	1		1	A	〃	
	Drying Oven (DS-410)	271,000.	1		1	A	〃	

Annex 2 (12/16)

(Equipment price more than ¥100,000. less than ¥1,600,000.)

Year	Name of Equipment(Blend / Model)	Price	Quant-ity	Lost or Damaged	Present Quatity	Using Condition	Managing Condition	Remark
1995	Octive Band Analyzer (SA-60 RION)	¥ 208,500.	1 set		1 set	A	Good	
	Vibrometer (ATV 3000 DZ RION)	678,060.	1 set		1 set	A	〃	
	Precision Integration Sound Level Meter (NL-4 RION)	1,022,900.	1 set		1 set	A	〃	
	Portable SO2 Analyzer (K S − 3 0 0 KORITSU RIKA)	940,000.	1 set		1 set	A	〃	
	Centrifuge (H-122 KOKUSAN)	459,700.	1 set		1 set	C	〃	
	Accessory for H-122 (Busket 24 X 14 DMC)	128,000.	1 pc		1 pc	C	〃	
	〃 (30 X 16 DMC)	170,500.	1 pc		1 pc	C	〃	
	Oil Content Analyzer (POC-100)	790,900.	1 set		1 set	B	〃	
	Direct Digital Readout Miss Meter (ML-53)	540,000.	1 set		1 set	B	〃	
	Accessory for Anaerobic Process Equipment(Gas Meter)	225,000.	1 set		1 set	A	〃	
	〃 (Reactor)	773,000.	1 set		1 set	A	〃	
	Accessory for CHN Corder	436,500.	1 lot		1 lot	B	〃	
	Electronic Micro Balance (MT-5)	1,026,000.	1 set		1 set	B	〃	
	Soft Ware for Oxygen Analysis	639,000.	1 set		1 set	B	〃	
	Acid Gas Trap	147,000.	1 set		1 set	B	〃	
	Air Sampler (HVS-1000)	395,180.	1 set		1 set	A	〃	
	Refrigerator (MPR-1011R SANYO)	519,000.	1 set		1 set	A	〃	
	Constant Temp. Drying Oven (DS-410 YAMATO)	270,000.	1 set		1 set	A	〃	
	Muffule Furnace (FP-32 YAMATO)	670,000.	1 set		1 set	A	〃	
	Rotary Vacuum Evaporator (NE-1S TOKYO RIKA)	322,000.	1 set		1 set	A	〃	
	Cooling Aspirator(CA-1100A SHIBATA)	450,000.	1 set		1 set	A	〃	

Annex 2 (13/16)

(Equipment price more than ¥100.000. less than ¥1,600,000.)

Year	Name of Equipment(Bland / Model)	Price	Quantity	Lost or Damged	Present Quatity	Using Condition	Managing Condition	Remark
1995	Cyanide Distillation Apparatus(P-26-4EL-S)	330.000.	1 set		1 set	B	Good	
	Auto Sampler for T.O.C Analyzer(ASI-5000A)	1,220,000.	1 set		1 set	A	〃	
	Conductivity Meter (CM-31V)	520,000.	1 set		1 set	A	〃	
"	Frame Work for Land Fill Experiment A	300,000.	2 set		2 set	C	〃	
	〃 B	500,000.	2 set		2 set	C	〃	
	Work & Operation Stage for Land Fill Experiment A,B	600,000.	1 set		1 set	C	〃	
	Water Sprayer for Land Fill Experiment A	100,000.	2 pcs		2 pcs	C	〃	
	〃 B	240,000.	8 pcs		8 pcs	C	〃	
	Sensor for Land Fill Experiment (pH Meter)	150,000.	4 pcs		4 pcs	C	〃	
	〃 (Moisture Meter)	300,000.	1 set		1 set	C	〃	
	Pump for Land Fill Experiment	430,000.	1 set		1 set	A	〃	

Annex 2 (14/16)

(Equipment price more than ¥100,000. less than ¥1,600,000.)

Year	Name of Equipment(Bland / Model)	Price	Quant-ity	Lost or Damaged	Present Quatity	Using Condition	Managing Conditio	Remark
1996	Portable Oxgen.Athetilane Welding Set (YAMATO WP-8)	¥ 214,500.	1 set		1 set	A	Good	
	COD(Cr) Analizer (Hack DR-2000)	¥ 468,400.	1 set		1 set	A	〃	
	COD Reactor (Hack 45600-00)	¥ 164,800.	1 set		1 set	A		
	Binocular Microscope (NIKON YS2-HB-1)	¥ 275,000.	1 set		1 set	A	〃	
	Vacum Type Dehydrator (YAMATO Spesial Made)	¥ 1,234,200.	1 set		1 set	A	〃	
	Centrifuge (KOKUSAN H-122)	¥ 664,400.	1 set		1 set	A	〃	
	Busket for Centrifuge (BS0-03)	¥ 193,400.	1 set		1 set	A	〃	
	Dynamic Pressure Balance Dust Sampler(NIGORIKAWANGZ-2NS)							
	Dust Sampler1:NGZ-451AS	¥ 344,800.	1 set		1 set	A	〃	
	2:NGZ-452AS	¥ 359,900.	1 set		1 set	A	〃	
	Handy Dust Sampler :NGZ-2NS	¥ 630,800.	1 set		1 set	A	〃	
	Pump and Others	¥ 358,300.	1 set		1 set	A	〃	
	Gas Suctuon Tube	¥ 562,600.	1 set		1 set	A	〃	
	Wet Gas Meter:(W-NK-2.5A)	¥ 252,300.	1 set		1 set	A	〃	
	Flange Holder:(NG-30)	¥ 201,800.	1 set		1 set	A	〃	
	SOX Sampler (NIGORIKAWA RIKA KOGYO NG-S-K)	¥ 301,100.	1 set		1 set	A	〃	
	〃 Suction Pump(NG-15-N)	¥ 164,000.	1 set		1 set	A	〃	
	〃 Wet Gas Meter(W-NK-1A)	¥ 158,900.	1 set		1 set	A	〃	
	NOX Sampler (NIGORIKAWA RIKA KOGYO NG-N-M1)	¥ 172,400.	1 set		1 set	A	〃	
	Suction Pump(NG-15-N)	¥ 164,000.	1 set		1 set	A	〃	
	〃 Wet Gas Meter(W-NK-1A)	¥ 158,900.	1 set		1 set	A	〃	

Annex 2 (15/16)

(Equipment price more than ¥100,000. less than ¥1,600,000.)

Year	Name of Equipment(Bland / Model)	Price	Quant-ity	Lost or Damaged	Present Quatity	Using Condition	Managing Condition	Remark
1996	Dissolved Oxygen Meter (KENTO EIL-7135)	¥ 475,200.	1 set		1 set	A	Good	
	Ion Meter (ORION 920A)	¥ 331,400.	1 set		1 set	A	〃	
	Screw Press (TOYOKUNI SHX-150)	¥ 1,540,000.	1 set		1 set	A	〃	
	Jumbo Shaker (TOKYO GLASS MW-J)	¥ 407,900.	1 set		1 set	A	〃	
	Ultrasonic Pipette Washer (YAMATO KAGAKU AW-31)	¥ 366,700.	1 set		1 set	A	〃	
	Infraed Moisture Balance(YAMATO KAGAKU MM-30(IR-30))	¥ 200,400.	1 set		1 set	A	〃	

Annex 2 (16/16)

(Equipment price more than ¥100,000. less than ¥1,600,000.)

Year	Name of Equipment(Blend / Model)	Price	Quantity	Lost or Damaged	Present Quatity	Using Condition	Managing Condition	Remark
1997	Magnetic Stirrer	¥ 107,330.	1 set		1 set	A	Good	
	Column for GC (G-100)	¥ 129,940.	2 set		1 set	A	〃	
	(G-205)	¥ 129,940.	2 set		1 set	A	〃	
	(G-250)	¥ 129,940.	2 set		1 set	A	〃	
	(G-300)	¥ 129,940.	2 set		1 set	A	〃	
	Column for LC (SHIM-PACK IC-A3)	¥ 205,580.	1 set		1 set	A	〃	
	Analytical Balance (AT-261)	¥ 580,000.	1 set		1 set	A	〃	
	Filter for Bag Filter	$ 8,874.	3 set		3 set	A	〃	
	Retainer for Bag Filter	$ 4,086.	2 set		2 set	A	〃	
	Electric Furnace (ARF-40K)	$ 1,165.	1 set		1 set	A	〃	

（3）インドネシア側投入実績

Annex 3　Indonesian side inputs

BUDGET ALLOCATION FOR THE PROJECT IN FISCAL YEAR 1993 TO 1998
(Unit : Million Rp)

Fiscal Year	93/94	94/95	95/96	96/97	97/98	98/99
Staff expences	15	120	131	134	163	141
Building renovation and facilities	-	105	125	21	48	10
Equipment, maintenance and operation	-	65	37	54	11	28
Utilities, communication and others	-	36	55	40	40	40
Domestic transportation, handling,, instalation of equipment	-	92	71	71	50	30
Total annual budget	15	418	420	320	312	249

Trend Development Budget for TIPPT Project

No	Items \ Fiscal Year	93/94	94/95	95/96	96/97	97/98	98/99
1.	Staff expences	-	27	27	32	32	25
2.	Building renovation and facilities	-	100	125	17	20	10
3.	Equipment, maintenance and operation	-	40	24	52	9	16
4.	Utilities, communication and others	-	5	36	29	10	7
5.	Domestic transportation, handling, instalation of equipment	-	53	55	51	45	21
	Total annual budget	-	225	267	181	116	79

Trend of Ordinary Budget for TIPPT Project

No	Items \ Fiscal Year	93/94	94/95	95/96	96/97	97/98	98/99
1.	Staff expences	15	93	104	102	131	116
2.	Building renovation and facilities	-	5	-	4	28	-
3.	Equipment, maintenance and operation	-	25	13	2	2	12
4.	Utilities, communication and others	-	31	19	11	30	33
5.	Domestic transportation, handling, instalation of equipment	-	39	17	20	5	9
	Total annual budget	15	193	153	139	196	170

Annex 3 (3/4)

Allocation of C/P

	Name of Counterpart	Condition of Allocation						Training in Japan	
	Year	1993	1994	1995	1996	1997	1998	Year	Main Training
		10 4	10 4	10 4	10 4	10 4	10		
MO IT	Mr. Aidil Juzar Ms. Rosediana Suharto			11 11					
B B IK	Ms. Hayatun Nusuf Mr. Soewadji H Ms. Susumirah Suryandari				10 10			93 93	Administrative System of Industrial Pllution Prevention Industrial Pollution Prevention Technology
W A T Σ R	Ms. Rahayu Susilowati Ms. Emmy Retnawati Ms. Rahyani Ermawati Ms. Sunardi Ms. Siti Agustina Mr. Waridin		6	12 10 3				95 94 95 96 96 97	Industrial Pollution Prevention Technology Industrial Pollution Prevention Technology Training Advanced Industrial Technology(Group) Indonesian Industry Energy and Environment (MITI Japan) West Water Treatment & Technique(Group) Industrial Pollution Prevention Technology
A I R	Ms. Siti Noer Tri H Mr. Trie Widianto Ms. Rofienda Taufik Mr. Wuryanto Ms. Badriyah Mr. Zulfiker		6		10		5 6	97 94 95 97 96	Technology for Industrial Exhaust Gas Treatment Energy Saving(Group) Industrial Pollution Prevention Technology Industrial Pollution Prevention Technology Industrial Pollution Control Engineering(Group) Industrial Pollution Control(Group)
B/ W	Ms. Siti Kami Ms. Sri Pudji Rahayu Ms. Th. Elly Witasari Ms. Sumingkrat Ms. Deni Nerlina Ms. Dwinna Mr. Ukar Tarwiyano	2 4		7 7		9 4		94 95 94 96 97	Industrial Pollution Control(Group) Industrial Pollution Prevention Technology Industrial Pollution Prevention Technology Country Focused Traing (Trace Analysis of Toxic Metal in Environmental) Industrial Pollution Prevention Technology
A D M N I	Ms. Nailly Chimiyati Ms. Sri Wahyu Kustyawati Ms. Luciawati S Mr. Haryanto Mr. Lilik		10 10 10 10 10					96 96 96	Administrative System of Industrial pollution Prevention 〃 〃

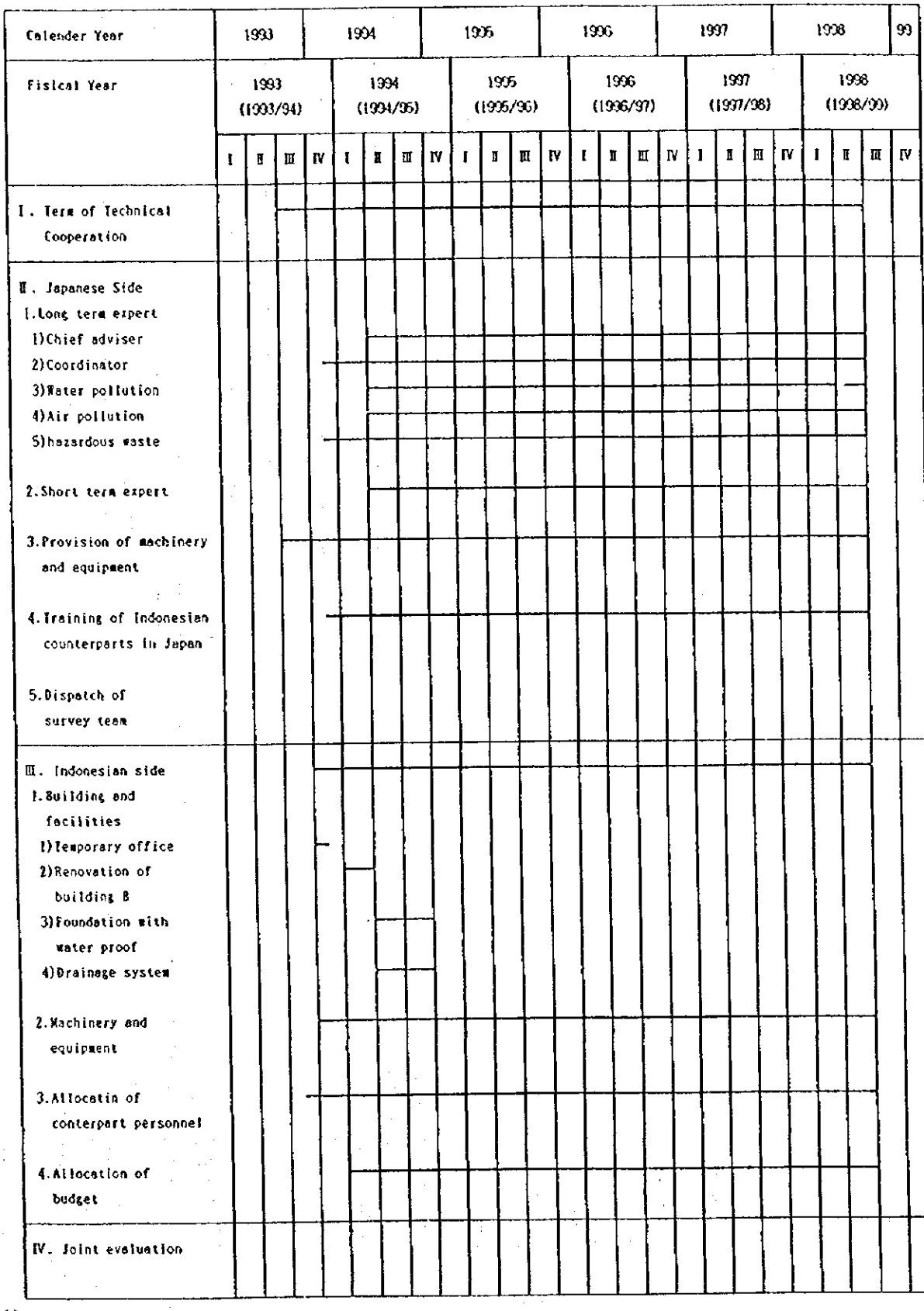
Annex 3 (4 /4)

Allocation of C/P

	Name of C/P	Budget Mo	Condition of Allocation 93 10	94 4	94 10	95 4	95 10	96 4	96 10	97 4	97 10	98 4	98 10	Training in Japan Year	Main Training	Remark
ANALYTICAL	Ms. Siti Naimah													95	Industrial Pollution Control Engineering (Group)	
	Ms. Suharti													98	Analytical Equipment Maintenance Technology	
	Ms. Burawati Batara													96	Country Focused Training (Trace Analysis of Toxic Metal in Environment)	
	Ms. Lina Handayani													95	Industrial Solid Waste Recycling Technology (Group)	
	Mr. Moch Toton S													97	Industrial Pollution Prevention Technology	
	Ms. Deni Herlina													96	Country Focused Training (Trace Analysis of Toxic Metal in Environmental)	
	Ms. Ratoma Juita							8								
	Ms. Agus Minggu			6										98	Country Focused Training (Trace Analysis of Toxic Metal in Environmental)	
	Ms. Alfrida L			7												
	Mr. Jaja Achmad			6 — 12												
	Ms. Hafni Syailendri							7								
SUPRTING STUFF	Mr. Antoni Barus		4									4		96	Video Program Production Technique	
	Mr. Ukar Terwiyano															
	Mr. Kusyanto															
	Mr. Ade Ismunandar															
	Mr. URW. Budiono (AV)															
	Mr. Iwan Gunawan		4	— 12												
	Mr. Asep Iskandar															
	Mr. Abdul Munir															
	Mr. Trisdyantono															
	Mr. Lugito															
	Mr. Tahmat Setiadi		4													
	Mr. Syahroni		4													

Annex 4

Tentative Schedule of Inplementation



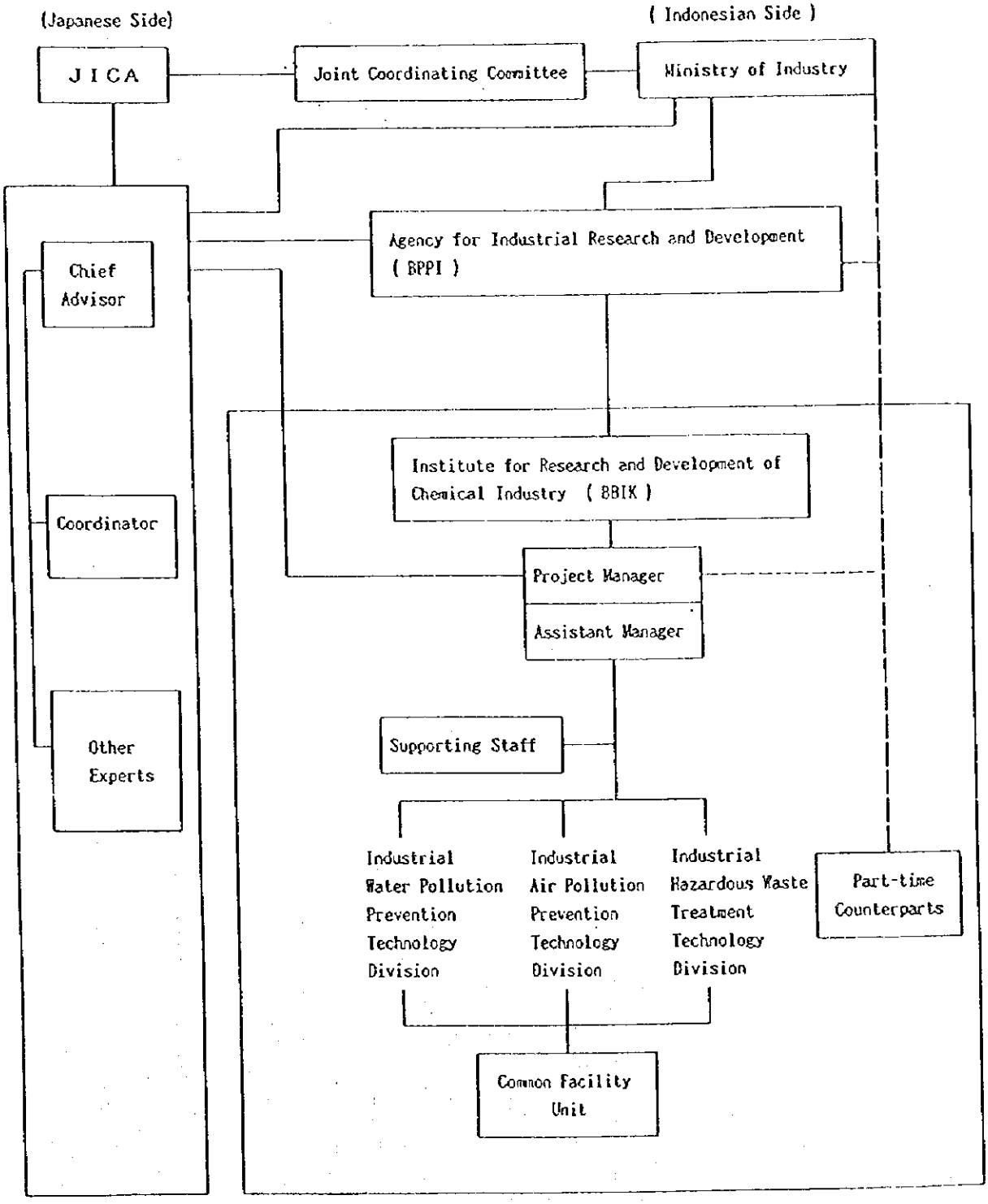
(5) TCP

ANNEX-5 Technical Cooperation Program (TCP)

Fiscal year	1993	1994(1994/95)				1995(1995/96)				1996(1996/97)				1997(1997/98)				1998(1998/99)	
Activities	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II
0-1 Arrange C/Ps and dispatch experts as scheduled																				
0-2 Allocate and manage the project budget																				
1-1 Analyze waste water, flue gases and hazardous waste																				
-2-1 Train C/Ps on experimental equipment for pollution prevention technology																				
-2-2 practice training on process analysis and process improvements to C/Ps																				
-3 Train C/Ps on operation and maintenance of facilities																				
2-1 Introduce laws and regulations, and pollution prevention measures to C/Ps				★ Seminar					★ Seminar											
-2 Introduce pollution related policies to C/Ps																				
-3 Study other countries regulations																				
3. Conduct factory survey																				
4. manage and maintain equipment																				
5. Produce a promotion video and organize seminars							★ 1st Seminar			★ 2nd Seminar			★ 3rd Seminar							

（6）プロジェクト体制図

Annex 6　Organization Chart of the Project



（7）技術評価チェック表

ANNEX 7 Evaluation Results(Air, Water, hazardous Waste)

Out puts: Activities and its contents	Evaluation(Technology Achievement)	Reasons
Out puts : BBIK staff are well trained for analytical methods Activities: Analyze waste water, flue gas and hazardous waste -Fuel analysis, method for flue gas analysis -Sampling method, chemical analysis of waste water, Instrumental analysis of waste water -Sampling method of hazardous waste, measurement technology of hazardous waste	A	They are able to instruct and lecture on the topics.
Out puts : BBIK staff are well trained for application technology Activities: Train C/Ps on experimental equipment for pollution prevention 1.Fundamentals of Industrial Pollution Control -Mechanism of air pollution, combustion control, desufurization technology etc. -Mechanism of water pollution, process improvement, physical and chemical treatment, biological treatment etc. -Classification industrial waste, reduction of industrial waste, waste storage and collection, intermediate treating technology etc.	A	They are able to instruct and lecture on the topics.
2.Practical exercise using experimental equipment -Combustion control, desurfurization technology, dedusting technology -Process improvement, physical and chemical treatment, biological treatment, treatment of hazardous materials -Final treatment, dumping treatment, control of leachate from dumping site	A	They are able to perform experiments.
Activities : Practice training on process analysis and process improvement in factories Process Analysis -Process analysis (material balance, energy balance, process improvement techniques etc.)	B	They still need more on-the-site training.

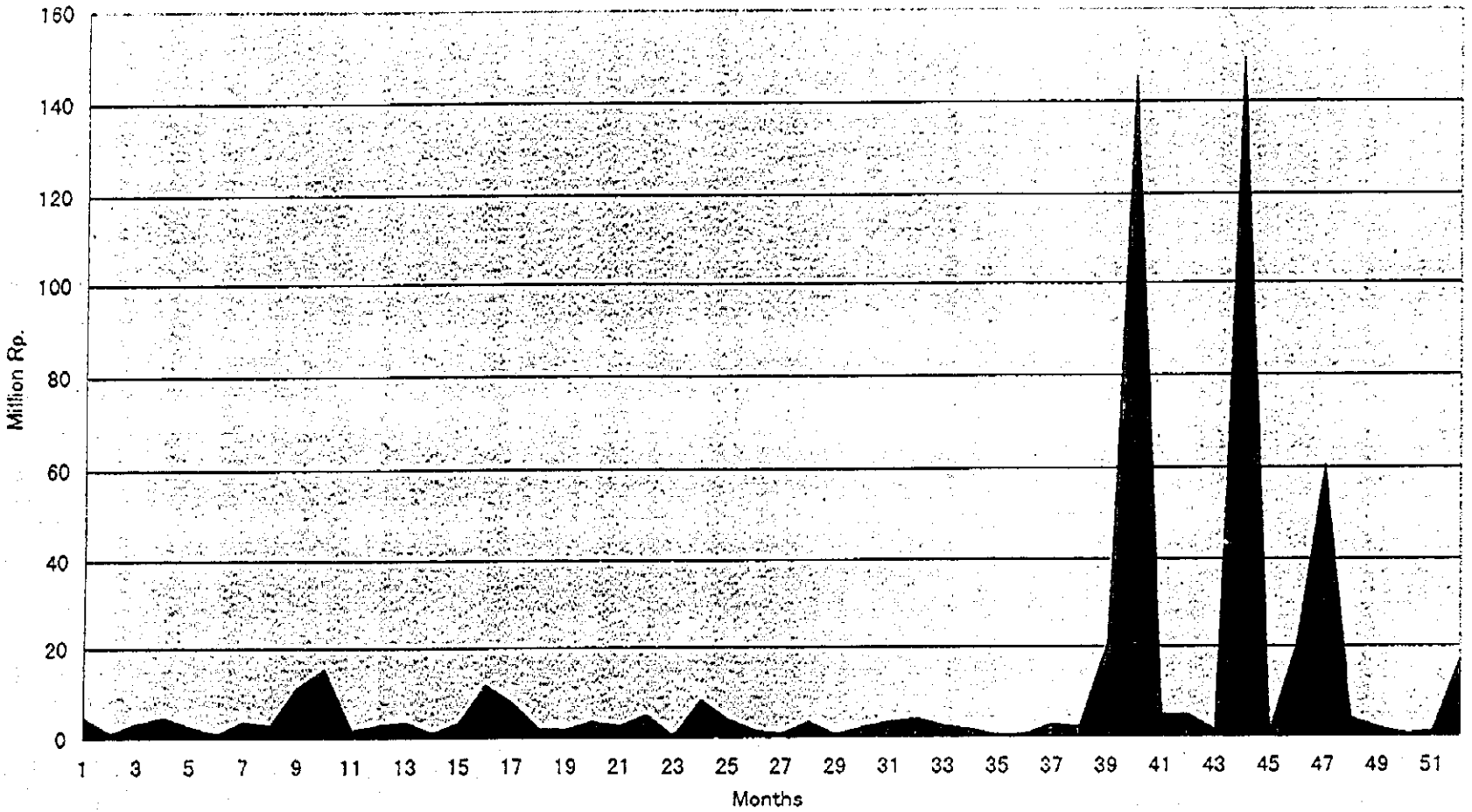
Out puts : BBIK staff are well trained for the method of operations and maintenance of facilities Activities: Train C/Ps on operation and maintenance of facilities Maintenance and Operation of Pollution Prevention facilities	B	They have sufficient knowledge on the equipment, yet they need more experience in operation.
Outputs: Factory survey techniques are acquired; a pollution level in a factory can be grasped. state of the factories is grasped. Activities: Conduct factory survey Factory Survey Techniques(Survey of Actual State etc.)	A	They have good understandings of the methods and are capable of producing reports.
Outputs: The equipment procured through the project is properly used and maintained. equipment for training are sufficiently utilized Activities : Manage and maintain equipment -Check sheet for equipment maintenance -Maintenance	A B	Check-sheets are equipped with all main equipment. they need to gain more experience with some equipment.

Remarks on the grading method:

At the "Evaluation", achieved technological levels of the C/Ps will be graded ranging from A to E.
(A: Able to teach and instruct analysts and survey. Able to give some lectures. B: Able to analyze and survey as taught. Able to explain.
C: Able to analyze and survey with experts' advice. D: Unable to analyze or survey by oneself. E: Necessary for further training including basic knowledge)

（8）技術サービスからの収入表

Annex 8　Revenue from Technical Services



（9）1998年度の日本側投入

Annex 9 JAPANESE SIDE INPUT TO THE PROJECT (1998)

1. Dispatch of Experts

(1) To continue the technical transfer by (5) long-term experts in the following fields:

a. Chief Advisor (1)
b. Coordinator (1)
c. Air Pollution Prevention technology (1)
d. Water Pollution Prevention technology (1)
e. Hazardous Waste treatment technology (1)

(2) To dispatch one (1) short-term expert for Industrial Pollution Prevention Dissemination.

2. Provision of Equipment

To provide the following equipment during the cooperation period

(1) Standard Reference Gas for Exhaust Gas Analysis (SO2, NO2, N2)
(2) Carrier Gas and Supporting Gas for Element Analyzer
(3) Parts for Vacuum Type Dehydrator
(4) Laboratory Pump
(5) Maintenance Parts for Laboratory Pump
(6) Small Size Mixer
(7) Maintenance Parts for Liquid Chromatograph
(8) Column for Gas Chromatograph
(9) Maintenance Parts for UV Spectrophotometer
(10) Maintenance Parts for Atomic Absorption Spectrophotometer
(11) Maintenance Parts for Anaerobic Digester
(12) Vessel for Reduction of Mercury Compound
(13) Hot plate
(14) Standard Ion Solution
(15) Reagent for Chemical Analysis
(16) Overhaul of Liquid Chromatograph
(17) Overhaul of Atomic Absorption Spectrophotometer
(18) Reagent for COD Analyzer

3. Counterparts Training in Japan

All training for Indonesian counterparts in Japan has been finished, as originally planned.

This year additional training in Japan was provided on the field of ANALYTICAL EQUIPMENT MAINTENANCE TECHNIQE.

(10) 1998年度のインドネシア側投入

Annex 10 INDONESIAN SIDE INPUT TO THE PROJECT (1998)

1. Building and facilities for the Project

Indonesian side has renovated the building as follows.

(1) Room for experts
(2) Rooms for meeting
(3) Rooms for experiment and analysis

2. Assignment of the Personnel for the Project

Indonesian side has assigned counterparts and supporting staffs for the Project as shown in Annex 10-1.

3. Budget allocation for Operational Cost

The budget allocation for the Project during fiscal year 1997/1998 and 1998/1999 as follows.

(Unit : Million Rp)

Fiscal Year	97/98	98/99
Staff expenses	163	141
Building renovation and facilities	48	10
Equipment, maintenance and operation	11	28
Utilities, communication and others	40	40
Domestic transportation, handling, installation of equipment	50	30
Total annual budget	312	249

Annex 10-1

LIST OF COUNTERPARTS

1. Project Officer :

Name	Education	Position
1. Mr. Soewadji H, Apt.	UGM - Yogyakarta	Project Manager
2. Mrs. Susmirah Suryandari	UGM - Yogyakarta	Assistant Project Manager

2. Water Pollution Prevention Technology

1. Ms. Emmy Ratnawati	IPB - Bogor	Water Pollution of Leader
2. Ms. Siti Agustina	Unsri - Palembang	Water Pollution
3. Ms. Rahyani Ermawati	UGM - Yogyakarta	Water Pollution
4. Mr. Sunardi	UGM - Yogyakarta	Water Pollution
5. Mr. Walidin	Unsyah - Banda Aceh	Water Pollution

3. Air Pollution Prevention Technology

1. Ms. Siti Noer Tri H.	UGM - Yogyakarta	Air Pollution of Leader
2. Mr. Trie Widianto	ITT - Bandung	Air Pollution
3. Ms. Rofienda	Unand - Padang	Air Pollution
4. Mr. Wuryanto	Polytechnic - Semarang	Air Pollution
5. Ms. Badriyah	Unsyah - Banda Aceh	Air Pollution
6. Mr. Zulfikar	Unsyah - Banda Aceh	Air Pollution

4. Hazardous Waste Treatment Technology

1. Ms. Sumingkrat	UM - Jakarta	Hazardous Waste of Leader
2. Ms. Dwinna Rahmi	Unand - Padang	Hazardous Waste
3. Ms. Sri Pudji Rahayu	IPB - Bogor	Hazardous Waste
4. Mr. Ukar Tarwiyono	Institute Management of Industry - Jakarta	Hazardous Waste

5. Chemical Analyst

1. Ms. Siti Naimah	AKA - Bogor	Chemical Analyst of Leader
2. Ms. Suharti	Chemical Analyst	Chemical Analyst
3. Ms. Burawati Batara	Chemical Analyst	Chemical Analyst
4. Ms. Lina Handayani	Chemical Analyst	Chemical Analyst
5. Mr. Moh. Toton S.	UPN - Jakarta	Chemical Analyst
6. Ms. Deni Herlina	ATIP - Padang	Chemical Analyst
7. Ms. Alfrida L.	Chemical Analyst	Chemical Analyst
8.. Ms. Hafni Syailendri	Chemical Analyst	Chemical Analyst

6. Administrators

1. Ms. Nailly Chilmiyati	Agency for Industrial Research and Deveelopment
2. Ms. Sri Wahyu Kustyawati	Agency for Industrial Research and Deveelopment
3. Ms. Luciawati S.	Agency for Industrial Research and Deveelopment
4. Mr. Haryanto	Agency for Industrial Research and Deveelopment
5. Mr. Lilik	Agency for Industrial Research and Deveelopment

7. Supporting Staff

1. Mr. Antoni Barus	Univ. of Jakarta	Supporting Staff of Leader
2. Mr. Kusyanto	UT - Jakarta	Supporting Staff
3. Mr. Ade Ismunandar S.	Administration - Jakarta	Supporting Staff
4. Mr. URW. Budiono	Advance School	Video Tape Recorder
5. Mr. Asep Iskandar	Advance School	General Purpose Attendance
6. Mr. Abdul Munir	Advance School	General Purpose Attendance
		Combustion
7. Mr. Trisdiantono	Advance School	Telephone Operator
8. Mr. Lugito	Advance School	Driver
9. Mr. Tahmat Setiadi	Advance School	Driver
10. Mr. Syahroni	Junior School	Office Boy

(11) 終了時評価日本側参加者リスト

Annex 11

LIST OF ATTENDANCE (JAPANESE SIDE)

1. The Evaluation Team

Dr. Takeshi Usami	Leader
Mr. Ko Morimoto	Technical Cooperation Planning
Mr. Tadasi Kataoka	Technology Transfer Planning
Mr. Yasuhiro Yokosawa	Project Management
Mr. Kaneyasu Ida	Project Analysis and Evaluation

2. Japanese Experts

Dr. Hideo Outi	Chief Advisor
Mr. Mamoru Izumi	Coordinator
Mr. Yasuyuki Makita	Air Pollution Prevention Technology
Mr. Shozaburo Kyushin	Water Pollution Prevention Technology
Mr. Kazuo Fujimura	Hazardous Waste Treatment Technology

3. JICA Indonesia Office

Mr. Ryou Suwa	Resident Representative
Mr. Kazuhiro Yoneda	Deputy Resident Representative
Ms. Tomoko Takeuti	Assistant Resident Representative

(12) 終了時評価インドネシア側参加者リスト

Annex 12 LIST OF ATTENDANCE (INDONESIAN SIDE)

1. Dr. Rosediana Suharto
   Head, Agency for Industrial and Trade Research and Development, MOIT

2. Mr. Anwar Wahab
   Secretary, Agency for Industrial and Trade Research and Development, MOIT

3. Mr. Sudarmadji
   Head, Center for Research and Application of Technology, MOIT

4. Mr. Soewadji H.
   Head, Institute for Research and Development of Chemical Industry, MOIT

5. Ms. Susmirah Suryandari
   Head, Division for Research of Fertilizer and Petrochemical, IRDCI-MOIT

6. Mr. Dida H Salya
   Biro for Industry and Trade, BAPPENAS

7. Ms. Nunuk Andayani
   Head of Division for Operational and Information, R&D Center for Resources, Industrial Zone and Environment, MOIT

8. Mr. Noor Arifin
   Biro for Industry and Trade, BAPPENAS

9. Ms. Ratna Juwita
   Head of Division for International Cooperation - Bureau of Planning, MOIT

10. Mr. KH. Sitohang
    Head of Division for Programme, Planning, Evaluation and Report, AIRD - MOIT

11. Mr. Muhammad Najib, MBA.
    Head of Division for Industrial Manufacture, AIRD - MOIT

12. Mr. Hendi Mustofa, MSc.
    Head of Sub Division for Programme Development, R&D Center for Resources, Industrial Zone and Environment, MOIT

13. Mr. Marihot Simorangkir, MSc.
    Head of Sub Division for Programme Development, R&D Center for Resources, Industrial Zone and Environment, MOIT

14. Mr. Imam Haryono, MSc.
    Staff, Agency for Industrial and Trade Research and Development, MOIT

15. Ms. Luciawati
    Staff, Agency for Industrial and Trade Research and Development, MOIT