

Annex 4 Results of the Evaluation

Relevance		Evaluation Items		Results
Main Items	Sub Items			
Consistency of the Overall Goals and Project Purposes with the national development policies/plans of Cambodia				<p>The Government of Cambodia has put high priority on improvement of water supply system and human resources development.</p> <p>(a) Wider provision of affordable potable water supply and sanitation is a priority issue according to "the Socio-economic Development Plan (2001-05)".</p> <p>(b) National Poverty Reduction Strategy (2003-05) focused on the supply of safe drinking water to the poor population in rural and urban areas.</p> <p>(c) National Strategic Development Plan (2006-10) stipulated the emphasis on ensuring of water in sufficient quantities and appropriate quality and needs of capacity building and human resources development as a whole. It in the Socio-economic Development Plan (2001-05), National Poverty Reduction Strategy (2003-05) and National Strategic Development Plan (2006-10).</p>
Was target group selection appropriate?	Conformity of Project Purpose with needs of MIME and PPWSA			<p>It was appropriate for the Project implementation to select MIME and PPWSA as the counterpart, since they are responsible for development of water supply system. Thus, they carried out the Project most effectively. There were sufficient needs for the Project on human resources development and capacity building for the staff who are involved in water supply system.</p>
	Is the size of target group of the Project appropriate? (number of C/Ps in MIME and PPWSA)			<p>Considering technology transfer through OJT, the size of C/Ps was appropriate.</p>
	Is the size of target group of the Project appropriate? (number of trainees of provincial water works)			<p>Number of trainees is appropriate since the evaluation by the participants were very high. The training/workshops were carefully planned and meticulously executed.</p>
Consistency with ODA policy in Japan. Is approach of the Project appropriate as means?	Consistency with priority assistance subjects of Japanese government			<p>One of the priorities of Japan's Assistance policy for Cambodia 2002 is set on water and sanitation improvement and provision of technical and financial assistance for policy planning and the training of engineers and technicians.</p>
	Consistency with priority assistance subjects of JICA			<p>According to JICA Country Program for Cambodia 2005-2008, improvement and maintenance of water supply system is emphasized as the strategies for improving urban living condition in the social sector development.</p>

Effectiveness		Evaluation Items		Results
Main Items	Sub-Items			
Achievement of Outputs			(See Annex 3 Achievement of the Project)	
Is the capacity to operate and maintain water supply facilities improved in PPWSA?	Does PPWSA function well in terms of distribution of treated water, operation of plants, control of water quality, and maintenance of electrical and mechanical facilities?			The capacity to operate and maintain water facilities were improved through activities of the Project. Based on the interview, most of C/Ps is confident that they do their tasks/assignments. As for treated water distribution, NRW (non revenue water) ratio, which is equivalent to leakage ratio, was decreased from 16% in 2003 to 11% in 2005 based on the telemeter system. The ratio is confirmed by Performance Indicators prepared by PPWSA. Manuals were almost prepared and will be completed in September 2006. Based on the manuals completed, it is expected that Phum Prek Water Treatment Plant (WTP) is operated and maintained as a routine work. At the laboratories, quality of treated water in 3 WTPs is checked in 33 to 37 parameters including accurate analysis for 3 parameters such as color, free available chlorine and total coliform. The result of analysis continuously satisfies the Cambodian National Drinking Water Quality Standards. Number of accurate analysis is expected to increase to 12 parameters at the end of the Project. Number of sampling stations for monitoring was increased from 12 in December 2003 to 20 in November 2005. Also, as for values of residual chlorine, some points out of 12 in 2003 did not satisfy the Cambodian National Drinking Water Quality Standards, but all 20 points satisfied the standards in 2005. Since manuals for operation and maintenance of electrical and mechanical facilities will be completed in September 2006, it is expected that electrical and mechanical facilities will be operated and maintained in the end of the Project using manuals.
Is the staff training system for the water supply system improved in the Kingdom of Cambodia?	Is the Proposed long-term Human Resources Development Programme in PPWSA (2004) well utilized? And how evaluated?			The long-term human resources development programme (draft) was already submitted in 2004. In response to the contents in the draft programme with additional support by the Japanese experts, several training courses were newly developed by PPWSA. According to the records of the training center at PPWSA, number of participants for training courses (training by the Japanese experts and C/P, trainer's training, training courses planned and implemented by PPWSA) was increased from 30 (net) in 2003 to 175 (net) / 341 (cumulative) in 2004 and 667 (cumulative) in 2005.
	Do training courses satisfy the understanding of the participants?			Based on the Final Evaluation Report on Training Courses for PPWSA's staff in 2004 and the Evaluation Report on Training Courses in 2005 (Trainer's Training, Provincial and PPWSA Staff Training), the training courses at PPWSA are highly evaluated as a whole. On the other hand, the staff of the task force at MIME made a need survey, formulated the workshop programmes including selection of target groups, coordinated among stakeholders, and implemented the workshop at five places. The evaluation on workshops by the participants is also appreciated. Thus, the staff training system for the water supply system has been improved at MIME and PPWSA.

Do the Outputs contribute to achieve the Project Purpose?	(Output 1) (Output 2) (Output 3) (Output 4 & Output 5)	<p>The counterpart staff mastered the sophisticated telemetry operation system. This system contributed to make an effective water distribution system at PPWSA.</p> <p>Most of the counterpart staffs are confident that they are able to operate and maintain the Phum Prek WTP by using manuals.</p> <p>Highly improved water quality monitoring system promoted the effective operation of WTP.</p> <p>The training center management ability was strengthened. The training courses were launched based on the proposed long-term human resources development programme (traff) and the needs survey report on capacity building for provincial waterworks in Cambodia.</p>
Were there any factors that influence to the effectiveness of the Project?		<p>The management staff of PPWSA took the strong leadership for the progress of the Project.</p> <p>The ties between the counterpart staff and the Japanese experts are robust.</p> <p>PPWSA provides the English training courses for the counterpart staff in order to strengthen their abilities on communication.</p>
Were there factors that hampered to achieve the Project Purpose?	<p>Were there replacements or resignation of C/P and trainees?</p> <p>Were there any changes on important assumptions?</p>	<p>Only a few counterpart staffs were moved or replaced.</p> <p>No changes are seen on important assumptions.</p>

Efficiency

Evaluation Items		Results
Main Items	Sub Items	
Are quality, quantity and timing of inputs to the Project appropriate compared to Outputs achieved by the Project?	Number, expertise, period, timing of dispatch of Japanese experts	3 long-term experts and a total of 32 short-term experts have been appropriately assigned in terms of qualification and timing. The technology transfer from the experts is highly appreciated by the counterpart staff. Thus, the experts have satisfactorily contributed to progress of all activities in the PDM.
	Type, quantity and timing of installation of training equipment	Most of equipment provided by JICA was appropriate in quality with proper and on-time installation to MIME and PPWSA. Most of equipment such as tools for water leakage detection and personal computers are well maintained and utilized, although some pieces of equipment in one provincial waterworks out of three which the Japanese team visited were not fully utilized.
	Number, training contents, training period and timing of C/P training in Japan	The counterpart training in Japan is highly appreciated. The results of the training are disseminated through presentation, reports and training courses. Some C/Ps told that the training period was rather short compared to the volume of contents.
	Number, training contents, training period and timing of C/P training in NWTTH (Thailand)	Based on the interview survey, contents of the training courses in Thailand were almost satisfactory.
	Local cost support	The local cost support budgets were efficiently disbursed for activities in the Project.
	Number and timing of assignment of C/P by Cambodian side	A total of 50 staff (MIME: 11 and PPWSA: 39) were assigned, which is much larger than the number shown in the PDM. Also, 29 counterpart members and 12 other members underwent training courses in Japan and NWTTH (Thailand), respectively. Their capability on water supply management, operation & maintenance technology and human resources development/training has been remarkably strengthened by cooperation with the Japanese experts and the training in Japan and Thailand.
	Budget allocation and its execution by Cambodian side	The operational budget was shouldered by Cambodian side. Moreover, payment of transportation, accommodation and other costs of participants in training from provincial waterworks (total amount of US\$ 7,416) was burdened.
	Provided facilities and equipment by Cambodian side	The Japanese experts are provided with well equipped office facilities.
	Does JCC function well?	Joint Coordination Committee (JCC) meeting was held 6 times as of June 2006, which the progress of the Project was reported and monitored. The last one will be held before the termination of the Project.
	Does periodical meeting (monthly) function well?	Counterpart Meeting (periodical meeting) was held once a month by C/P and the Japanese experts to confirm the schedule and to report activities in the previous month.
Appropriateness of project management	Factors, which hampered efficiency of the Project seriously, were not seen.	
Factors hampered efficiency of the Project		

Impact	Evaluation Items		Results
	Main Items	Sub Items	
Will Ultimate Development Goals and Overall Goals be achieved?			In order to achieve the ultimate development goals (the super goals), which is related to Millennium Development Goals, the Cambodian government continues to make possible efforts. As for overall goals, the capacity to operate and maintain water supply facilities are already improved at 3 WTP of PPWSA as "the top-runner." The appearance of the second runner and other runners are highly expected, although it may require own efforts by the Cambodian side and assistance among donor agencies. Support by the Project to Stern Reap Water Supply System (hereinafter referred to as "SRWSS") is one step to achieve the overall goals.
Does it need to change important assumptions for overall goals?			It is not needed to change the important assumptions for overall goals. (1) Number of water supply facilities will increase and existing water treatment facility will be rehabilitated and (2) Inhabitants will be willing to use tap water
Are there any positive and/or negative impacts of the Project?	Are there any positive impacts on the staff of PPWSA, MIME or provincial waterworks who are not directly involved in the Project in terms of capability?		Quite a few counterpart staff transferred the technologies they have learned from Japanese experts to colleagues or other persons who are not involved in the Project activities. According to the questionnaire, many counterparts answered that they have obtained capability such as "work with accuracy", "understanding of the responsibility of their work" and "positive attitudes toward your work/assignment", which are not items on technology transfer.
	Are there any positive impacts on the water supply development in Cambodia as a whole such as policy or institutional arrangement?		MIME starts exchanges of the information on water supply system and human resources development among provincial waterworks and promotes to establish the Cambodian Waterworks Association. The conference among MIME and provincial waterworks was held in 2006.
	Does the Project offer supports and services to contribute to development of private sector in water supply?		Private water utilities participated in the workshops by MIME in the provinces
	Other positive/negative effects		The Project (both C/P at PPWSA and the Japanese experts) helped the SRWSS in the fields of (1) training at PPWSA (outline of waterworks for staff of SRWSS and workshop for leakage repairing work), (2) On the job training (OJT) about valve operating with pressure monitoring, construction of the bypass pipe and leakage and illegal connection survey, (3) Other visiting of Project members to assist the staff of SRWSS. The SRWSS are operated successfully since JICA's several schemes for training including activities by the Project complemented each other. Relating to water quality analysis, one staff was newly assigned in the laboratory to analyze algae and trained in Japan. This is not included in PDM. Long term training scheme is utilized to foster a leader in terms of water supply technology in the future.

GHI

Sustainability		Evaluation Items		Results
Main Items	Sub Items			
Are the roles and functions of MIME and PPWSA in water supply clearly defined in Cambodia government?				The Cambodian Government continues to strengthen roles and functions of MIME and PPWSA in water supply according to National Strategic Development Plan (2006-10)
Do MIME and PPWSA have capability to sustain and manage the activities in the Project?	Capability on operation and management of MIME and PPWSA	Financial soundness of MIME and PPWSA		MIME formulates the policies on water supply in the country such as National Policy on Water Supply and Sanitation (2003) PPWSA formulated business plan for Year 2005-2009 in terms of water supply management. The high capability on operation of PPWSA is confirmed in the annual report and performance indicators based on the consecutive monitoring system. Financial sustainability of MIME and the provincial waterworks seems to be fragile in terms of human resources development in water supply sector since the budget was not secured or its execution was delayed in some cases. It is highly expected that MIME and the provincial waterworks will strengthen the financial capability for sustainable implementation of the Project. On the other hand, financial situations of PPWSA seem to be sound, according to the report titled Financial Sustainability of Water Supply Utilities (July 2005).
	Capability to obtain the training needs for local water works			MIME makes efforts to obtain the training needs for local water works.
	Capability to cooperate with donor agencies and private sector			MIME is responsible for the coordination among donor agencies in the fields of water supply.
Does the technology transferred through the Project become established?	Acquisition of necessary knowledge and skills among C/P on water supply system and training programme			Through on-the-job training, training courses at PPWSA, training courses in Japan and other workshops/seminars, technical knowledge of counterpart staff in the fields of treated water distribution, operation and maintenance of water treatment plants/facilities, water quality control, training management and workshops/training has been reinforced. As for telemetry system, some counterparts worry about troubles in the software. Technology transferred by the Japanese experts are well disseminated from C/P who are directly involved in the Project to other staff who are not involved through OJT of daily activities, training, seminars and meetings.
What are major factors that facilitate or hamper the sustainability of the Project?	Possibility of the technology transfer to other various levels of water supply systems/facilities by C/P that are not directly involved in the Project			Factors that hamper the sustainability of the Project were not seen.

Annex 5 List of the Japanese Experts

(1) Long-term Japanese Experts		Period of Assignment	
No.	Name of Expert	Field	From To
1	Mr. Kiyama Satoshi	Maintenance of Electrical Facilities	14, October, 2003 27, March, 2005
2	Ms. Yariuchi Mina	Coordinator/Training Management	20, April, 2005 13, October, 2006
3	Mr. Kubota Kazuya	Management of Water distribution System and Analysis of Data	20, April, 2005 13, October, 2006
(2) Short-term Japanese Experts		Period of Assignment	
No.	Name of Expert	Field	From To
1	Ms. Yamamoto Keiko	Chief Adviser/ Training Plan	14, October, 2003 8, November, 2003
2	Mr. Kagata Katsutoshi	Water Treatment Process Technology	14, October, 2003 28, November, 2003
3	Mr. Mori Kazumasa	Lecturer for Water Supply Management	2, November, 2003 8, November, 2003
4	Mr. Kikuchi Katsutoshi	Lecturer for Telemeter system	2, November, 2003 8, November, 2003
5	Mr. Takayama Kazuo	Unit Trial Operation and Adjustment of Water Distribution System	2, December, 2003 28, March, 2004
6	Mr. Magara Yasumoto	Lecturer for water quality management	14, December, 2003 17, December, 2003
7	Mr. Kudo Yukio	Water Quality Analysis and Monitoring	8, January, 2004 26, March, 2004
8	Mr. Kubota Kazuya	Management of Water distribution System and Analysis of Data	20, January, 2004 26, March, 2004
9	Ms. Yamamoto Keiko	Chief Adviser/ Training Plan	15, March, 2004 24, March, 2004
2004			
10	Ms. Yamamoto Keiko	Chief Adviser/ Training Plan	26, April, 2004 24, October, 2004
11	Ms. Kamegai Yasuko	Water Quality Analysis and Monitoring	26, April, 2004 26, June, 2004
12	Mr. Takayanagi Kenichi	Study on Human Resource Development in Provincial Waterworks	1, May, 2004 30, June, 2004
13	Mr. Yokota Ichiro	Planning of Human Resource Development in PPWSA	1, May, 2004 3, July, 2004
14	Mr. Takahashi Takeo	Water Treatment Process Technology and Maintenance of Mechanical Facilities	3, June, 2004 30, September, 2004
15	Mr. Ishii Hideo	Management of Water distribution System and Analysis of Data	3, July, 2004 30, October, 2004
16	Ms. Kamegai Yasuko	Water Quality Analysis and Monitoring	31, July, 2004 30, September, 2004
17	Mr. Sasaki Shinichi	Lecturer on Algae Control	29, August, 2004 3, September, 2004
18	Ms. Yamamoto Keiko	Chief Adviser/ Training Plan	27, February, 2005 27, March, 2005
2005			
19	Ms. Yamamoto Keiko	Chief Adviser/ Training Plan	20, April, 2005 10, October, 2005
20	Mr. Sasayama Hiroshi	Water Quality analysis and Monitoring	2, June, 2005 30, September, 2005
21	Mr. Nakashima Eiji	Leakage Detection	15, June, 2005 31, July, 2005

22	Mr. Tokumura Tomoaki	Human resource Development	24, June, 2005	2, July, 2005
23	Ms. Tanemura Maiko	Lecturer for human resource development program	14, July, 2005	19, July, 2005
24	Mr. Kiyama Satoshi	Telemeter system	19, July, 2005	21, August, 2005
25	Mr. Kagata Katsutoshi	Water Treatment Process Technology and Maintenance of Mechanical Facilities	2, August, 2005	30, November, 2005
26	Mr. Shiraishi Yoshihiko	Maintenance of Electric facilities	2, December, 2005	31, March, 2006
27	Mr. Nakashima Ikuo	Ground water treatment	4, December, 2005	28, February, 2006
28	Ms. Yamamoto Keiko	Chief Adviser/ Training Plan	10, January, 2006	28, February, 2006
29	Mr. Nakashima Elji	Countermeasures for Non-Revenue Water	22, January, 2006	28, February, 2006
30	Mr. Sasaki Shinichi	Measurers for Algae Problem	16, March, 2006	1, April, 2006
2006				
31	Ms. Yamamoto Keiko	Chief Adviser/ Training Plan	18, April, 2006	13, October, 2006
32	Mr. Kagata Katsutoshi	Water Treatment Process	15, June, 2006	14, September, 2006
33	Mr.	Maintenance of Electric facilities	15, June, 2006	14, September, 2006
34	Ms. Kamegai Yasuko	Water quality management	25, June, 2006	24, September, 2006

Annex 6 List of Counterpart personnel

(1) PPWSA

No.	Field	Name of Counterpart	Position
1	Project Management & Coordination	H.E. Ek Sonn Chan	General Director
2		Mr. Long Naro	Deputy General Director
3		Mr. Samreth Sovathia	Director of Planning
4	Maintenance of Electrical Facility	Mr. Sek Sam Ann	Chief of electrical team
5		Mr. Yeap Buntha	
6		Mr. Check Meak	
7		Mr. Chrun Limkea	
8		Mr. Hor Se	
9		Mr. Chin Sambath	
10		Mr. Ya Yan Thoeun	
11		Mr. Noun Bunna	
12	Water Treatment Process	Mr. Ros Deth	Chief of Production
13		Mr. Tan Bunnet	Manager of Phum Prek WTP
14		Mr. Kong Sontra	Manager of Chroy Changwar WTP
15		Mr. Sim Sour	Vice chief of Chroy Changwar WTP
16		Mr. Soun Sokhe	Vice chief of planning and Statistic Office
17		Mr. Sao Dara	
18		Mr. Chhun Vicheth	
19	Water quality management	Mr. Keo Heng	Chief of Laboratory
20		Ms. Kry Vanna	Chief of section
21		Ms. Kv MoniCharya	Chief of section
22		Mr. Mun Tito	
23		Ms. Hul Soursdey	
24	Study of Algae	Mr. Por Kunnarith	Staff of Laboratory
25	Distribution Maintenance	Mr. Khut Vuthiarith	Director of production & Distribution
26		Mr. Pheng Ty	Vice manager of Leakage detection
27		Mr. Tuy Bunnserieirith	- ditto -
28		Mr. Meach Phonsopeha	- ditto -
29		Mr. Ly Chheng Eang	- ditto -
30		Mr. Kong Samol	
31		Mr. Ros Borin	
32		Mr. Ma Noravin	
33		Mr. Ou Khunnavath	
34		Human resources development	Mr. Sem Bun Heng
35	Ms. Roeun Nary		Chief of human resources
36	Training Management	Dr. Chea Visoth	Head of Training Center
37		Mr. Huot Sok Heng	Staff of Training Center
38		Ms. Ek Poeu	- ditto -
39		Ms. Chan Sothea	- ditto -

(2) MIME/DPWS

40	Project Management & Coordination	Mr. Peng Navuth	Director of Potable Water Supply
41		Mr. Meng Saktheara	- ditto -
42	Provincial workshop/ training	Mr. Chhrien Seng Kong	Deputy Director
43		Mr. An Bunhak	- ditto -
44		Mr. Tang Sochettra	Chief of technical section
45		Mr. Khoy Khim	Vice-Chief of water work office
46		Mr. Hoy Sopheap	Vice-Chief of administrative office
47		Mr. Bun Chankong	Vice-Chief of planning office
48		Mr. Cheav Chenny	
49		Mr. Meak Channvary	
50		Mr. Chour Cheth Tyvoim	

Annex 7 List of Counterpart Trainings in Japan

No	Name of Training Course	Name of Trainee	Duration of Training		Remarks
			From (Departure)	To (Arrival)	
1	Water quality management	Mr. Long Naro	7, March, 2004	13, March, 2004	PPWSA
2		Mr. Peng Navuth			MIME
3	Operation and Maintenance of water supply system	Mr. Ou Khunnavath	20, March, 2004	18, July, 2004	PPWSA
4		Mr. Sim Sour			PPWSA
5		Mr. Chhun Vicheith			PPWSA
6		Mr. Yeap Buntha			PPWSA
7	Engineering on water supply system	Mr. Tang Sochettra	11, May, 2004	31, July, 2004	MIME
8		Mr. Khoy Khim			MIME
9	Water Quality Analysis	Ms. Kry Vanna	25, June, 2004	3, July, 2004	PPWSA
10	Water quality analysis and monitoring System	Mr. Keo Heng	6, July, 2004	6, August, 2004	PPWSA
11	Human resources development	Mr. Sem Bun Heng	23, November, 2004	22, December, 2004	PPWSA
12		Ms. Roeun Nary			PPWSA
13	O&M of water supply	Mr. Ros Borin	21, March, 2005	16, July, 2005	PPWSA
14		Mr. Sao Dara			PPWSA
15		Mr. Meach Phonsopeha			PPWSA
16		Mr. Kong Samol			PPWSA
17	Engineering on water supply system	Mr. Bun Chankong	10, May, 2005	31, July, 2005	MIME
18		Mr. Chour Cheth Tyvain			MIME
19	Study for Algae and the Measures	Mr. Por Kunarith	3, July, 2005	29, October, 2005	PPWSA
20	Water quality analysis and monitoring System	Ms. Ky Charia	2, October, 2005	29, October, 2005	PPWSA
21	Human resources development	Mr. Ek Sonn Chan	3, November, 2005	12, November, 2005	PPWSA
22		Mr. Meng Saktheara			MIME
23	Water Supply Management for Provincial Waterwork	Mr. Kong Sokvan	15, May, 2006	15, June, 2006	Siem Reap
24		Ms. Tith Linda			Battambang
25		Mr. Sim Sitha			Sihanouk Ville
26	Engineering on water supply system 2	Mr. Cheav Chenny	9, May, 2006	27, July, 2006	MIME
27		Mr. Meak Channvany			MIME
28	Water quality analysis and monitoring System	Ms. Hul Soursdey	30, May, 2006	29, June, 2006	PPWSA
29	Training Management	Mr. Hout Sok Heng	1, September, 2006	30, September, 2006	PPWSA

Annex 8 List of Counterpart Trainings in Thailand (NWTII)

No.	Name of Training Course	Name of Trainee	Duration of Training		Remarks
			From	To	
1	Training Management	Dr. Chea Visoth	4, July, 2004	14, July, 2004	PPWSA
2		Ms. Roeun Nary			PPWSA
3		Mr. Chhrien Seng Kong			MIME
4		Mr. Im Sopal			MIME
5	Leakage detection	Mr. Pheng Ty	25, May, 2005	1, June, 2005	PPWSA
6		Mr. Ly Chheng Eang			PPWSA
7		Mr. Yim Sondeth			PPWSA
8		Mr. Rong Rath			Battambang
9		Mr. Yeng Saveoun			Kampong Cham
10		Mr. Vong Samon			Kampot
11	Training Management	Ms. Ek Peou	9, March, 2006	17, March, 2006	PPWSA
12		Ms. Chan Sothea			PPWSA

Annex 9 List of Equipment

Country	Year	Code	Name	Description	Manufacturer	Installed in	Date of arrival	Unit Price	Condition	Use
JPN	TR	03 01	LCD Projector	EMP-74	EPSON	Office	Oct 30,2003	328,000	Good	Rarely
JPN	TR	03 02	Digital Video camera	DCR-PC300K	SONY	Office	Oct 30,2003	169,000	Good	Always
JPN	TR	03 03	Tryport			Office			Good	Rarely
JPN	PC	03 01	Laptop computer	Inspiron 8600	Dell	Office	Oct 30, 2003	260,000	Good	Always
JPN	PC	03 02	Laptop computer	Inspiron 8600	Dell	Office	Oct 30,2003	260,000	Good	Always
JPN	PC	03 03	Desktop Computer	Power Edge 600SC	Dell	Office	Dec 10, 2003	433,000	Good	Always
JPN	PC	03 04	Fax&Printer	PSC2550 photosmart	hp	Office		53,000	Good	Always
JPN	PC	04 02	Desktop Computer	Dimension:4600C	Dell	Yamamoto office		196,000	Good	Always
JPN	PC	04 03	Desktop Computer	E-mac	Apple	Office	July 04, 2004	162,000	Good	Always
JPN	EL	03 01	Handy Calibrator	CA71	YOKOGAWA	EL team	Dec 16, 2003	169,000	Broken	Rarely
JPN	EL	03 02	Handy Calibrator	CA71	YOKOGAWA	EL team	Dec 16, 2003	169,000	Good	Rarely
JPN	EL	03 04	Insulation Tester	240644	YOKOGAWA	EL team	Dec 16, 2003	43,000	Good	Rarely
JPN	EL	03 05	Insulation Tester	240644	YOKOGAWA	EL team	Dec 16, 2003	43,000	Good	Rarely
JPN	EL	03 06	Insulation Tester	240644	YOKOGAWA	EL team	Dec 16, 2003	43,000	Good	Rarely
JPN	EL	03 07	Handy Calibrator	CA71	YOKOGAWA	EL team	Dec 16, 2003	169,000	Good	Always
JPN	EL	03 08	Handy Oscillo Graphic Recorder	OR300E	YOKOGAWA	Control room "FOOWTID"	Nov 5, 2004	370,000	Good	Always
JPN	EL	03 09	Die Electric With Stand Tester	IP-7016	Musashi	EL team	Dec 16, 2003	450,000	Good	Never
JPN	EL	03 10	Oil Oxidation test set	3860	Sami	EL team	Dec 16, 2003	43,400	Good	Never
JPN	EL	03 11	Handy Asynchronous Line Monitor	HM-3E	BITS	Office		198,000	Good	Never
JPN	EL	03 12	Earth Tester	No.63RPO113	YOKOGAWA	EL team	Dec 16, 2003	41,800	Good	Never
JPN	EL	03 13	Earth Tester	No.63RPO113	YOKOGAWA	EL team	Dec 16, 2003	41,800	Good	Never
JPN	EL	03 14	Earth Tester	No.63RPO113	YOKOGAWA	EL team	Dec 16, 2003	41,800	Good	Never
JPN	EL	03 15	Clip lead for short circuit	3900	Musashi	EL team	Dec 16, 2003	35,400	Good	Never
JPN	EL	03 16	Rubber Sheet	3904	Yotsugi	EL team	Dec 16, 2003	29,000	Good	Never
JPN	EL	03 19	Retardation Coil Set	RC-101	OI	EL team			Good	Never
JPN	EL	03 20	Retardation Coil Set	RC-101	OI	EL team			Good	Never
JPN	EL	04 10	Die Electric Test Set	IP55S	Musashi	EL team	Feb 16, 2004	319,000	Good	Never
JPN	EL	04 11	Level Meter	LM-310	TOEI	EL team	Feb 20,2004	134,750	Good	Rarely
JPN	EL	04 12	Multi Relay Tester (1)		Musashi	EL team	Feb 20,2004	460,000	Good	Never
JPN	EL	04 13	Multi Relay Tester (2)		Musashi	EL team	Feb 20,2004		Good	Never

Item No.	Name	Description	Manufacturer	Installed in	Date of arrival	Unit Price	Condition	Use
JPN EL 04 14	Multi Relay Tester (3)	Transformer	Musashi	EL team	Feb 20, 2004	Y	Good	Never
JPN EL 04 15	Arrester Tester	PD-2	Sankosha	EL team	Mar 21, 2004	Y	Good	Rarely
JPN EL 04 16	Telemeter Sub Station	FT101	Mori Engineering	Local site	Mar 10, 2004	Y	Good	Always
JPN EL 04 17	Hand-Pump	PV411-P	Mori Engineering	Mr Neth office	Mar 10, 2004	Y	Good	Always
JPN EL 04 18	Telemeter Sub Station	FT101	Mori Engineering	Local site	Mar 10, 2004	Y	Good	Always
JPN EL 05 01	Board for Telemeter	KP-TM-93	Mori Engineering	Office	May 11, 2005	Y	Good	Spare
JPN EL 05 02	Modem for Telemeter	ME5614D2	OMRON	Office	May 11, 2005	Y	Good	Spare
JPN EL 05 03	Modem for Telemeter	ME5614D2	OMRON	Office	May 11, 2005	Y	Good	Spare
JPN EL 05 04	Modem for Telemeter	ME5614D2	OMRON	Office	May 11, 2005	Y	Good	Spare
JPN EL 05 05	Modem for Telemeter	ME5614D2	OMRON	Office	May 11, 2005	Y	Good	Spare
JPN EL 05 06	Modem for Telemeter	ME5614D2	OMRON	Office	May 11, 2005	Y	Good	Spare
JPN EL 05 07	Relay Tester	WPS-22	Musashi	EL team	Jan 3, 2006	Y	Good	Never
JPN EL 05 08	Testing Transformer	R-1220	Musashi	EL team	Jan 3, 2007	Y	Good	Never
JPN EL 05 09	Probe for thickness meter	USPA-301	YOKOGAWA	Office Mr. Ty	Feb 6, 2006	Y	Good	Always
JPN EL 05 10	Digital multi meter	733-03	YOKOGAWA	Office	Feb 6, 2006	Y	Good	Never
JPN EL 05 11	Handy Calibrator	CA71	YOKOGAWA	Office	Feb 6, 2006	Y	Good	Never
JPN EL 05 12	Resistance Meter	3235-11	YOKOGAWA	Office	Feb 6, 2006	Y	Good	Never
JPN EL 05 13	Clamp meter	CL235	YOKOGAWA	Office	Feb 6, 2006	Y	Good	Never
JPN EL 05 14	Leak Tester	CL340	YOKOGAWA	Office	Feb 6, 2006	Y	Good	Never

JPN MC 04 01	Wrench	GMB283	Tonichi	EL team	July 22, 2004	Y	Good	Never
JPN MC 04 02	Wrench	GMB404	Tonichi	EL team	July 22, 2004	Y	Good	Never
JPN MC 04 03	Calibrator	GPC200	AME TEK	EL team	July 22, 2004	Y	Good	Never
JPN MC 04 07	Chlorine meter	EW-510	Tonichi	Labo	July 22, 2004	Y	Broken	Never
JPN MC 04 15	Pocketable Vibration Meter	vm-63a	Rion	EL team	July 22, 2004	Y	Good	Always

JPN WQ 03 01	Handy Water Quality Checker	L-8030SE	Kyoritsu	Labo(MIME)	Nov 05, 2003	Y	Good	Sometimes
JPN WQ 03 02	Transformer		Kyoritsu	Labo(MIME)			Good	Sometimes
JPN WQ 03 03	Turbidity & Color meter	WA-PT-4S	Kyoritsu	Labo			Good	Never
JPN WQ 03 04	Turbidity & Color meter	WA-PT-4S	Kyoritsu	Labo(MIME)			Good	Sometimes
JPN WQ 03 05	Residual Chlorine & Ph Comparator	DP4	Suido Kiko	Labo			Good	Always
JPN WQ 03 06	Residual Chlorine & Ph Comparator	DP4	Suido Kiko	Labo			Good	Always
JPN WQ 03 07	Residual Chlorine & Ph Comparator	DP4	Suido Kiko	Labo			Good	Always
JPN WQ 03 08	Potable Electric Balance 200g	PZ-200	Shimazu	Labo			Good	Always

Item No.	Name	Description	Manufacturer	Installed in	Date of arrival	Unit Price	Condition	Use
JPN WQ 03 09	Potable Electric Balance 2000g	1458N	Tanaka	Labo			Good	Always
JPN WQ 03 10	CHEMetrics DO colorimetric kit	K-7512	Kyoutetsu	Labo	May 21 2004	963,700	Good	Always
JPN WQ 04 01	UV/VIS spectrophotometer	UVMINI-1240	Shimadzu	Labo	July 22 2004	368,000	Good	Always
JPN WQ 04 02	Turbidity Meter	2100P	Hach	Office			Good	Always
JPN WQ 04 03	Tube Mixer	TM-1F (変圧器付)	Asona	Labo	Aug 1 2004	25,840	Good	Always
JPN WQ 04 04	Residual Chlorine & Ph Comparator	DP4	Poseidon	Labo	Aug 1 2004	28,700	Good	Always
JPN WQ 04 05	Residual Chlorine & Ph Comparator	DP4	Poseidon	Labo	Aug 1 2004	28,700	Good	Always
JPN WQ 04 06	Residual Chlorine & Ph Comparator	DP4	Poseidon	Labo	Aug 1 2004	28,700	Good	Always
JPN WQ 04 07	Residual Chlorine & Ph Comparator	DP4	Poseidon	Labo(CCW)	Aug 1 2004	28,700	Good	Always
JPN WQ 04 08	Residual Chlorine & Ph Comparator	DP4	Poseidon	Labo	Aug 1 2004	28,700	Good	Always
JPN WQ 04 09	Residual Chlorine & Ph Comparator	DP4	Poseidon	Labo	Aug 1 2004	28,700	Good	Always
JPN WQ 04 10	Residual Chlorine & Ph Comparator	DP4	Poseidon	Labo	Aug 1 2004	28,700	Good	Always
JPN WQ 04 11	Residual Chlorine & Ph Comparator	DP4	Poseidon	Labo	Aug 1 2004	28,700	Good	Always
JPN WQ 04 12	Residual Chlorine & Ph Comparator	DP4	Poseidon	Labo	Aug 1 2004	28,700	Good	Always
JPN WQ 04 13	Residual Chlorine & Ph Comparator	DP4	Poseidon	Labo	Aug 1 2004	28,700	Good	Always
JPN WQ 04 14	Color Printer	EM-930C	Epson	Labo	Aug 1 2004	97,715	Good	Always
JPN WQ 04 15	Long Path Rectangular cell holder	204-2311B-01	Shimadzu	Labo	Aug 1 2004	58,500	Good	Spare
JPN WQ 04 16	Alternate sample compartment	206-6018	Shimadzu	Labo	Aug 1 2004	29,400	Good	Never
JPN WQ 04 17	Electric conductivity cell	CT-57101B	Toa Dkk	Labo	Aug 1 2004	51,500	Broken	
JPN WQ 04 18	Lamp	062-65055-05	Shimadzu	Labo	Aug 1 2004	33,900	Good	Spare
JPN WQ 04 19	Handy ph meter	B-212	Horiba	Labo	May 21 2004	26,180	Good	Always
JPN WQ 04 20	Handy conductivity meter	B-173	Horiba	Labo	May 21 2004	25,000	Good	Always
JPN WQ 04 21	Microscope		OLYMPUS	Labo(CCM)	May 21 2004	50,000	Good	Always
JPN WQ 04 22	Bacteriological examination kit			Labo	Apr 27 2004	50,000	Good	Always
JPN WQ 05 02	Test tube Mixer	3-323-215	KENIS	Labo	Feb 22 2004	50,000	Good	Always
JPN WQ 05 03	SPC filter holder	6163-4703	Shibata	Labo	July 5 2005	25,000	Good	Always
JPN WQ 05 04	Iron meter	orion 920A PI	Thermoelectron	Labo	July 5 2005	30,190	Good	Spare
JPN WQ 05 05	Ammonia Electrode	9512BN	Thermoelectron	Labo	Aug 2 2005	310,220	Good	Always
JPN WQ 05 06	Fluoride electrode	9609BN	Thermoelectron	Labo	Aug 2 2005	104,130	Good	Always
JPN WQ 05 08	SPC filter holder	6163-4703	Shibata	Labo	Aug 2 2005	125,000	Good	Spare
JPN WQ 05 09	Electric conductivity cell	CT-57101B	Toa Dkk	Labo	July 5 2006	30,190	Good	Spare
JPN WQ 05 10	Electric conductivity cell	CT-57101B	Toa Dkk	Labo	Oct 7 2005	51,900	Good	Always
JPN WQ 05 11	Potable Water Analyzer	WA-1	Nippon Denshoku	Office	Oct 7 2005	51,900	Good	Spare
JPN WQ 05 12	Microscope Eclipse	801 801F-PH-21	Nikon	Labo	Feb 9 2006	414,300	Good	Never
					Mar 10 2006	1,380,000	Good	Always

Item No.	Item Name	Description	Manufacturer	Installed in	Date of arrival	Unit Price	Condition	Use
JPN WQ 05 13	Digital Camera for Microscope	DS-5M-LJ	Nikon	Labo	Mar 10, 2005	¥ 441,000	Good	Always
JPN WQ 05 14	Relay Lens for Digital Camera	0.7x DXM	Nikon	Labo	Mar 10, 2005	¥ 47,500	Good	Always
JPN WQ 05 15	Plankton Net (ø 30cm)	5513-B	RIGOSHA	Labo	Mar 10, 2005	¥ 43,000	Good	Never
JPN DS 05 01	Water Leak detector	G-MICJ	Radio detection,JPN	Battambang	April 21, 2005	¥ 474,200		
JPN DS 05 02	Water Leak detector	G-MICJ	Radio detection,JPN	S. Rieng	April 21, 2005	¥ 474,200		
JPN DS 05 03	Water Leak detector	G-MICJ	Radio detection,JPN	Dis. team	April 21, 2005	¥ 474,200	Good	Always
JPN DS 05 04	Water Leak detector	G-MICJ	Radio detection,JPN	Dis. team	April 21, 2005	¥ 474,200	Good	Always
JPN DS 05 05	Plastic Water Pipe Locator	RD 500	Radio detection,JPN	Dis. team	May 11, 2005	¥ 562,000	Good	Always
JPN DS 05 34	Listening Stick	LS-15	Fuji Techom	S.Ville	May 11, 2005	¥ 20,700		
JPN DS 05 35	Listening Stick	LS-15	Fuji Techom	Battambang	May 11, 2005	¥ 20,700		
JPN DS 05 36	Listening Stick	LS-15	Fuji Techom	Pursat	May 11, 2005	¥ 20,700		
JPN DS 05 37	Listening Stick	LS-15	Fuji Techom	Kg. Thom	May 11, 2005	¥ 20,700		
JPN DS 05 38	Listening Stick	LS-15	Fuji Techom	Kg. Cham	May 11, 2005	¥ 20,700		
JPN DS 05 39	Listening Stick	LS-15	Fuji Techom	S. Rieng	May 11, 2005	¥ 20,700		
JPN DS 05 40	Listening Stick	LS-15	Fuji Techom	Dis. team	May 11, 2005	¥ 20,700	Good	Always
JPN DS 05 55	Hammer Drill	PR-25B	HITACHI	S.Ville	May 11, 2005	¥ 69,800		
JPN DS 05 56	Hammer Drill	PR-25B	HITACHI	Battambang	May 11, 2005	¥ 69,800		
JPN DS 05 57	Hammer Drill	PR-25B	HITACHI	Pursat	May 11, 2005	¥ 69,800		
JPN DS 05 58	Hammer Drill	PR-25B	HITACHI	Kg. Thom	May 11, 2005	¥ 69,800		
JPN DS 05 59	Hammer Drill	PR-25B	HITACHI	Kg. Cham	May 11, 2005	¥ 69,800		
JPN DS 05 60	Hammer Drill	PR-25B	HITACHI	S. Rieng	May 11, 2005	¥ 69,800		
JPN DS 05 61	Hammer Drill	PR-25B	HITACHI	Dis. team	May 11, 2005	¥ 69,800	Good	Always
JPN DS 05 90	Residual Chlorine Meter	HI95701J	HANNA		May 11, 2005	¥ 36,860	Good	Never
JPN DS 05 91	Residual Chlorine Meter	HI95701J	HANNA		May 11, 2005	¥ 36,860	Good	Never
JPN DS 05 92	Residual Chlorine Meter	HI95701J	HANNA		May 11, 2005	¥ 36,860	Good	Never
JPN DS 05 93	Residual Chlorine Meter	HI95701J	HANNA		May 11, 2005	¥ 36,860	Good	Never
JPN DS 05 101	Smart Recorder Pen Printing	SRF101/102/103	YAMATAKE	Office	Mar 10, 2006	¥ 246,800	Good	Never
PP TR 03 01	Video tape recorder	SLV-ED939	SONY	Office		\$ 215	Good	Rarely
PP TR 04 01	LCD Projector	Hp vp6120	Hp	Office	Nov. 30, 2004	\$ 1,699	Good	Rarely
PP PC 03 01	Desktop Computer			Office		\$	Good	Always
PP PC 03 02	Desktop Computer	Compact Desktop Computer		Office		\$ 1,380	Good	Always

Annex 9

Item No.	Name	Description	Manufacturer	Installed in	Date of arrival	Unit Price	Condition	Use
PP PC 03 03	Desktop Computer	Compact Desktop Computer		Office		\$ 1,380	Good	Always
PP PC 03 04	Inkjet Printer A3	deskjet 1180c	hp	Office		\$	Good	Sometimes
PP PC 03 05	Copier	SF-4030	SHARP	Office		\$	Good	Always
PP PC 03 06	Laser printer	Hp 1300	hp	Office		\$	Good	Always
PP PC 04 01	Desktop Computer + Win XP	ShuttleX		Office	Feb 18, 2004	\$ 1,800	Good	Always
PP PC 04 03	Desktop Computer			Secretariat office	Aug 4, 2004	\$ 439	Good	Always
PP PC 04 04	Desktop Computer			EL office	Aug 4, 2004	\$ 439	Good	Always
PP PC 04 05	Laser printer	LBP-1210	Canon	EL office	Aug 4, 2004	\$ 225	Good	Always
PP PC 04 06	Laptop Computer	Compaq EVO NX7010 PM-	HP	MIME, DPWS	Oct 20, 2004	\$ 1,685	Good	Always
PP PC 04 08	Laser printer	Laserjet 2300 Q2472A	HP	CA office	Oct 20, 2004	\$ 640	Good	Always
PP PC 05 01	Laptop Computer	NX 6120	HP	Labo	Mar 02, 2006	\$ 2,920	Good	Always
PP EQ 03 01	Hi Ace		Toyota	Office	Mar 31, 2004	\$ 23,000	Good	Always
PP EQ 05 01	PAJERO		MITSUBISHI	Office	Apr. 29, 2005	\$ 28,800	Good	Always
PP DS 05 01	Generator	SH 2800	HONGDA		Jan. 05, 2006	\$ 840	Good	Always
PP DS 05 02	Pump	GX 160	HONGDA		Jan. 05, 2006	\$ 235	Good	Always
PP DS 05 03	Hammer Drill	GBH 5-38D	BOSCH	Siam Reap	Jan. 17, 2006	\$ 400		
PP EL 04 04	Ultrasonic Flowmeter		Yokogawa	DS team	Mar 21, 2005	\$ 12,327	Good	Sometimes

Abbreviation;

Procured in

JPN: Japan

PP: Cambodia

Type of equipment

TC: for Training

PC: on Computers

EL: for electrical facilities

MC: for mechanical facilities

WQ: for water quality

DS: for distribution facilities

Use

Always; > 3 times/week

Sometimes; > 2 times/month

Rarely; > 1 time /3 months

Never

Spare

ANNEX 10

Personnel Visited by the Team

Organization	Name	Position
MIME	H.E. Phork Sovanrith	Secretary of State
PPWSA	H.E. EK sonn Chan	General Director
MEF	Mr. Por Yutha	Chief of Bilateral Cooperation
CDC	Mr. Dim Kimhon	Staff, Asian Pacific Department
Provincial waterworks	Mr. NONG SAROEUN	Vice Director, KAMPOT
	Mr. NONG SAROEUN	Director, PURSAT
	Mr. CHAN SENGLA	Director, SIEM REAP
	Mr. PRACH NAN	Director, SVAY RIENG
	Mr. TAUCH CHHUON SAORITH	Director, BATTAMBANG
	Mr. PREAP SOMALA	Director, KAMPONG CHAM
	Mr. LENG PORTHONG	Director, KAMPONG THOM
	Mr. CHOUN CHETHA	Director, SIHANOUK VILLE

Interviewee	Position
Mr. Tan Bonneth	Chief, Phum Prek Water Treatment Plant, Production and Distribution Dep. PPWSA
Mr. Keo Heng	Vice Chief, Laboratory section, Production Office, Production and Distribution Dep. PPWSA
Mr. Sok Ann	Chief, Electrical section, Production office, Production and Distribution Dep. PPWSA
Mr. Pheng Ty	Vice Manager, Distribution Management office, Production and Distribution Dep. PPWSA
Mr. Ros Deth	Manager, Production office, Production and Distribution Dep. PPWSA
Mr. Sok Heng	Staff, Training Center, Protocol Office, Admin&HR Dep. PPWSA
Ms. Roeng Nary	Manager, Human Resource Office, Admin&HR Dep. PPWSA
Mr. Khut Vuthiarith	Director, Production and Distribution Dep. PPWSA
Mr. An Bunhak	Deputy Director, DPWS, MIME
Mr. Meng Soktheara	Director, DPWS, MIME
H.E. Ek Somn Chan	General Director, PPWS
Mr. Long Naro	Deputy General Director, PPWSA
Dr. Chea Visoth	Advisor to the General Director, and Chief of Training Center, PPWSA
Mr. Sen Bun Heng	Deputy General Director and Director, Admin.&HR Dep., PPWSA



