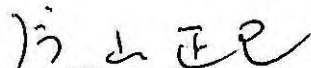
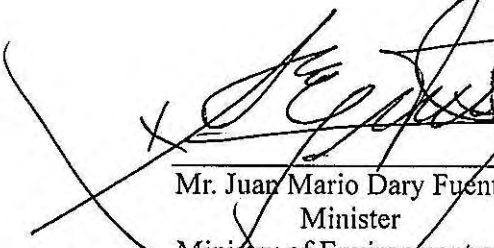



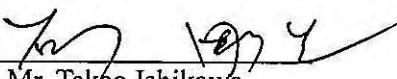
MINUTES OF MEETINGS
BETWEEN
JICA PROJECT TEAM AND JICA MONITORING MISSION
AND
MINISTRY OF ENVIRONMENT AND NATURAL RESOURCES
THE REPUBLIC OF GUATEMALA
ON
THE SECOND JOINT COORDINATING COMMITTEE MEETING
FOR
THE PROJECT FOR CAPACITY DEVELOPMENT FOR WATER ENVIRONMENT
CONSERVATION IN THE METROPOLITAN AREA

Guatemala City, July 4th, 2006



Mr. Masami Katayama
Leader
JICA Project Team


Mr. Juan Mario Dary Fuentes
Minister
Ministry of Environment and
Natural Resources(MARN)




Mr. Takeo Ishikawa
Leader
JICA Monitoring Mission

Witnessed by


Mr. Yoshitaka Misawa
Resident Representative
JICA Guatemala Office

Done in duplicate in Spanish and English languages, each text being equally authentic. In case of any divergence of interpretation, the English text shall prevail.

1. Introducción

With the presence of The Minister and Vice Minister of Environment and Natural Resources Lic. Juan Mario Dary Fuentes and Arq. Sergio Enriquez Veliz Rizzo respectively, the 2nd Joint Coordinating Committee (hereinafter referred to as "JCC") meeting was held on July 4th, 2006 at the meeting room (Los Bosques) of the Ministry of Environment and Natural Resources (hereinafter referred to as "MARN") with Thirty Nine (39) participants including MARN officials, representatives from related governmental organizations, municipalities and donors as listed in the Annex-1.

Main issues confirmed in the JCC meeting are summarized as below:

2. Main Issues

1) Presentation of Mr. Kei Omura:

Mr. Omura, member of the Advisory Committee for the project Support, presented the issue: "Water Quality Management in Aichi Prefecture, Japan" and topics related to this Project

2) Project Matrix Design (PDM₁) and Plan of Operation (PO₁)

PDM₁ and PO₁ were approved as the framework of the Stage 2 of the Project.

The major characteristics of the PDM₁ and PO₁ are as follows;

a) Focus on implementation of the Wastewater Regulations

Considering the enforcement of the Wastewater Regulations May 2006, the PDM₁ is focused on the activities related to contribute to capacity development for the smooth implementation of the regulations.

b) Concentration of the principal activities before September 2008.

Despite that the project period of the Stage 2 remains three years, in accordance with the process for the wastewater control required by the Regulations, the major part of the project activities will be implemented by September 2008. In the remaining period (from September 2008 to September 2009), basically MARN will by themselves continue to implement the activities in the aim of securing the sustainability, having technical support from JICA experts.

3) Necessity of More dynamic Participation of Counterpart personnel

It is confirmed that dynamic participation of the counterpart personnel in the Project is necessary to attain the Project Purpose, the extent of which should be equally responsible for both sides. Therefore, the MARN promised to take an action to facilitate the participation of the counterparts.

4) Ensuring the sustainable and effective implementation of the Wastewater Regulation

To ensure the sustainable and effective implementation of the wastewater regulation, MARN will elaborate a manual for an administrative sanction and legal penalty based on the pilot activities. In addition, a Study of a rational way of water quality analysis will be conducted by MARN.

5) Nomination of Person in Charge for Each Activity

MARN will assign the person in charge for those activities in which the post remains vacant by the beginning of the Stage 2.

6) Mid Term and Final Evaluation

In accordance with the provision of Article V. of the Record of Discussions dated December 2nd, 2005, the Mid-Term Evaluation will be conducted around March 2008 and the Final Evaluation will be conducted around March 2009.



7) Smooth Succession after the General Election.

Guatemala will hold General Elections on November 2007. In order for the new authorities to be able to receive all the information regarding this Project, MARN promises to guarantee an ordered, systematized and integral transference of the project, to assure the sustainable continuation of the project in agreement with the officially approved in the Record of Discussions between the Japan International Cooperation Agency (JICA) and the authorities concerned of the Republic of Guatemala on Japanese Technical Cooperation, signed in December 2nd. 2005 and the Minutes of Meetings between the Japanese preparatory study team and the Ministry of Environment and Natural Resources dated September 12th. 2005.

8) Presentation of New JCC Members

The following entities are nominated as a member of JCC

Representative of the Guatemalan Accreditation Office (OGA)

Representative of Ministry of Health and Social Assistance

Representative of Ministry of Agriculture, Livestock and Nourishing (MAGA)

Representative of Villa Nueva Municipality

Representative of Mixco Municipality

Representative of San Pedro Ayampuc Municipality

Representative of Chinautla Municipality

Representative of Guatemala Municipality

Representative of Villa Canales Municipality

Representative of San Miguel Petapa Municipality

Representative of Amatitlan Municipality

Annex-1 Participants List of the second JCC


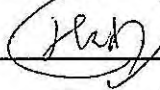
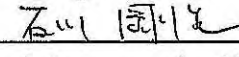
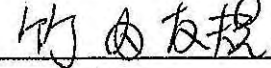
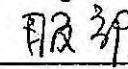
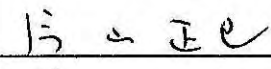
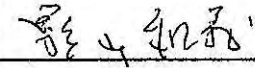
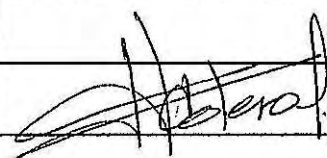
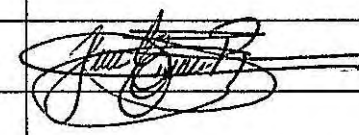
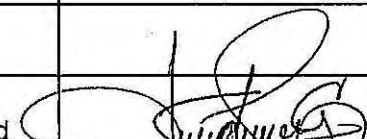
Annex-2 PDM₁. PO₁

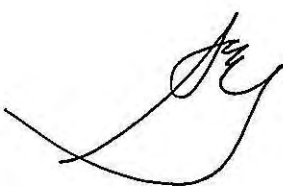
**"Proyecto Sobre Fortalecimiento de la Capacidad de Conservacion del
Ambiente Acuático en el Area Metropolitana"**

Lista de Asistencia


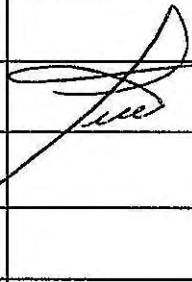

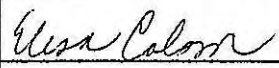
2do. Comité de Coordinación Conjunta JCC
4 de Julio de 2006

Lugar: Salón Los Bosques I y II
Hora: 14:00 - 17:00

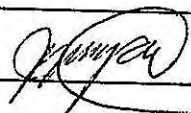

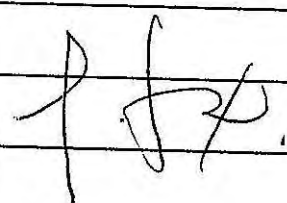
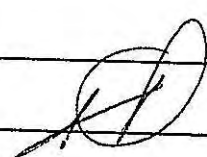
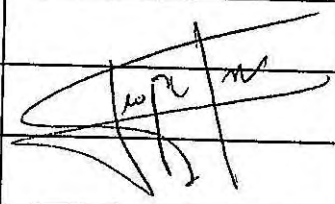
No.	Nombre	Cargo	Firma
	JICA		
1	Kei Omura	Asesor Jica Japón	
2	Yoshitaka Misawa	Representante Residente JICA Guatemala	
3	Takeo Ishikawa	Representante JICA Japón	
4	Tomonori Takeuchi	Coordinador JICA Japón	
5	Toshiko Hattori	Coordinador JICA Guatemala	
6	Masami Katayama	Líder JICA Project Team	
7	Kazuyoshi Kageyama	Miembro JICA Project Team	
	Municipalidad de Guatemala		
8	Sr. Álvaro Arzú Irigoyen	Alcalde	
9	Arq. Paola Constantino	Representante municipalidad	
10	Arq. Luís Felipe Cotero	Representante municipalidad	
11	Arq. Boris López	Representante municipalidad	
	Municipalidad de Santa Catarina Pinula		
12	Sr. José Antonio Coro García	Alcalde	
13	Ing. Juan Carlos Paz 4	Representante municipalidad	
	Municipalidad de Amatitlán		
14	Sr. Erwin Orlando Alfaro Mijangos	Alcalde	
15	Sr. Alfonso González	Representante municipalidad	

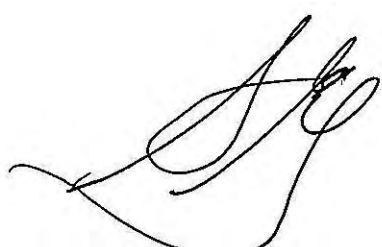



10

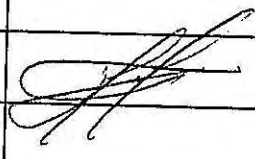
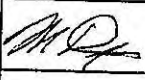
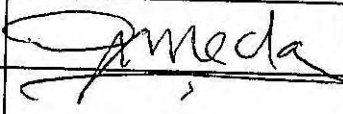
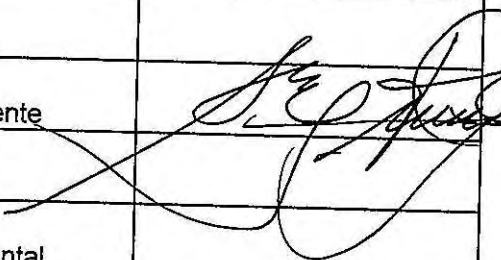
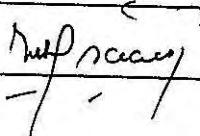
No.	Nombre	Cargo	Firma
	Municipalidad de Villa Canales		
16	Sr. Miguel Ángel García Domínguez	Alcalde	
	Municipalidad de Villa Nueva		
17	Sr. Salvador Gandara Gaitan	Alcalde	
18	Lic. Dinorah Herrera	Representante municipalidad	
	Municipalidad de Mixco		
19	Sr. José Amilcar Rivera Estévez	Alcalde	
20	Sr. Héctor de León	Representante municipalidad	
	Municipalidad de San Miguel Petapa		
21	Sr. Rafael Eduardo González Rosales	Alcalde	
	Municipalidad de Chinautla		
22	Sr. Edgar Arnoldo Medrano Menéndez	Alcalde	
	Municipalidad de San Pedro Ayampuc		
23	Sr. Eduardo Avalos Figueroa	Alcalde	
	JAPON		
24	Takahiro Yamauchi	Primer Secretario	
	SEGEPLAN		
25	Dr. Hugo Eduardo Beteta Méndez Ruiz	Secretario General	
26	Dr. Julio Almengor	Asesor	
27	Lic. Elisa Colóm	Asesor	
	INFOM		
28	Ing. Billy Alexander Roca García	Gerente	




No.	Nombre	Cargo	Firma
29	Ing. Alfredo Zarata	Asesor	
	UNIVERSIDAD DE SAN CARLOS		
30	Ing. Pedro Saravia	Director Escuela de Ingeniería	
31	Ing. Guillermo García Ovalle	Asesor	
	AMSA		
32	Ing. Edgar Rolando Zamora Ruiz	Director Ejecutivo	
33	Arq. Juan Pablo Vidaurre	Sub-Director Ejecutivo	
34	Arq. Rina Girón	Asesor	
	INSIVUMEH		
35	Ing. Edy Sánchez	Director	
36	Ing. Pedro Tax	Asesor	
	EXBECARIOS DE FRANCIA		
37	Ing. Manuel Urrutia	Director	
	LABORATORIO NACIONAL DE SALUD		
38	Lic. Ismael Mansilla	Jefe	
	EMPAGUA		
39	Ing. Hugo Vásquez	Sub-Director	
40	Ing. Rodolfo González Morazo	Asesor	
41	Ing. Julio Escoto	Asesor	
42	Ing. Mario Rojas	Asesor	
	MAGA		
43	Ing. Álvaro Aguilar Prado	Ministro	





No.	Nombre	Cargo	Firma
44	Ing. Carlos Cobos	Asesor	
45	Ing. Oscar Hernández	Asesor	
	UNIVERSIDAD DEL VALLE		
46	Sr. Edwin Castellanos	Asesor	
47	Dra. Margaret Diks	Asesor	
	OGA		
48	Lic. Pablo Alexander Pineda M	Jefe	
	CAMARA DE INDUSTRIA		
49	Sr. Khalil de León	Ejecutivo de Gestión Ambiental	
	SALUD		
50	Ing. Esteban Piedra Santa	Jefe Departamento de Programas de Salud y Ambiente	
51	Sr. Ricardo Gossman	Asesor Dirección de Regulación, Vigilancia y control de la salud	
	MARN		
52	Lic. Juan Mario Dary Fuentes	Ministro	
53	Arq. Sergio Véliz	Viceministro de Ambiente	
54	Lic. Luís Argueta	CONAGUA	
55	Ing. Alejandro Recinos Gómez	Asesor Gestión Ambiental	
56	Ing. Eyda Araceli Lorenzana	Asesor Gestion Ambiental	
57	Ing. Guillermina Cortéz	Asesor Gestion Ambiental	
58	Lic. Mario Isaacs	Asesor Políticas y Estrategias	
59	Lic. Selene Enríquez	Asesor Políticas y Estrategias	
60	Lic. Ana Luisa de León	Asesor Participación Social	

No.	Nombre	Cargo	Firma
61	Lic. Julia Flores	Asesor Participación Social	
62	Ing. Byron González	Sub-Director Informática	
63	Lic. Leonel Aquino	Sub-Director SIA	
64	Lic. Carmen Samayoa	Asesor Cumplimiento Legal	
65	Lic. Ricardo Clossé	Sub-Director Coordinación Nacional	
66	Dr. Rolando Torres	Comisionado	
67	Lic. Carolina Campos	Director Cumplimiento Legal	
68	Lic. Federico Franco	Director Coordinación Nacional	
69	Dr. Jorge Vargas	Director SIA	
70	Lic. Edgar Contreras	Director Administración y Finanzas	
71	Ing. Carlos Abel Noriega	Director Gestión Ambiental	
72	Arq. José Luís Menéndez	Director Políticas y Estrategias	
73	Lic. Milton Cabrera	Director Participación Social	
74	Ing. Mauricio Flores	Director Informática	
75	F. VORONADO	DGCN	
76	Flor de María Salazar	URHYC	
77	Olivia Orellana	RHC	
78	Carlos Alvarado	Síndico II CHINGUA	
79	Ricardo Serrano	Asesor legal U. Rec. Hídricas	
80	Mauro Umutee	CONUNTOR	
81	Mario A. Isaacs	CONSULTOR HYDRA	
82	Andrés Dela	MARN	
83	Nobunaki Hanana	SEGEPLAN / JICA	

84 Erick Asdon Recursos Hídricos

10

Table 2.2.1 Updated PDM by Project Team

Project Title: The Project for Capacity Development for Water Environment Conservation in the Metropolitan Area

Project Period: March 2006 to September 2009 (42 months)

Target Area: Nine (9) Municipalities in the Metropolitan Area of Guatemala (Guatemala, Mixco, Villa Nueva, Villa Canales, Chimalta, San Miguel Petapa, San Pedro Ayampuc, Santa Catarina Pinula and Amatitlan

Target Group: Staff of the Ministry of Environment and Natural resources

Narrative summary	Objectively verifiable indicators	Means of verification	Important assumptions
<p><Overall Goal></p> <ul style="list-style-type: none"> Public policy and regulation on water environment conservation in the metropolitan area is effective. 	<ul style="list-style-type: none"> 50 % of the 9 municipalities and selected industries accomplish the first stage reduction schedule of the wastewater regulation (for the municipalities in 2015 and for industries in 2011). 	<ul style="list-style-type: none"> Monitoring results by MARN 	<ul style="list-style-type: none"> Water environment-oriented policy of the Guatemalan government does not change.
<p><Project Purpose></p> <ul style="list-style-type: none"> MARN's implementation capacity of the wastewater regulation for water environment conservation in the metropolitan area is reinforced. 	<ul style="list-style-type: none"> The results of the Capacity Assessment regarding the wastewater regulation are improved from XX points in October 2006 to XX points in September 2009. Perception of MARN is improved from XX points in October 2006 to XX points in September 2009. The staff number of the Unit of Watershed and Water Resources of MARN is increased from 8 (7 permanent and 1 temporary) in July 2006 to 16 (8 permanent and 8 temporary) in September 2009. 	<ul style="list-style-type: none"> Results of Capacity Assessment Questionnaire survey Annual Report of MARN 	<ul style="list-style-type: none"> Budget of MARN does not decrease drastically. Mandates of MARN regarding water environment conservation are not changed.
<p><Output></p> <p>Output 0: PDM₁ and PO₁ to be implemented in Stage2 are elaborated.</p>	<ul style="list-style-type: none"> PDM₁ and PO₁ are elaborated. 	<ul style="list-style-type: none"> PDM₁ and PO₁ 	<ul style="list-style-type: none"> Participation of counterpart personnel is ensured. Transfer of counterparts is less. The progress of the technical studies by industrial and agro-industrial wastewater generators is conducted on schedule. Budget for water quality analysis by MARN is ensured. Necessary information is provided in time.
<p>Output 1: Strategy formulation capacity for effective enforcement of the wastewater regulation is reinforced.</p>	<ul style="list-style-type: none"> By December 2007 strategies for effective enforcement of the wastewater regulation (financial frameworks for municipalities, collaboration mechanism with municipalities, incentives for industries, procedures of setup of environmental standards for water bodies) are proposed. The proposed four strategies are officially approved by the Minister of MARN. The proposed strategies are revised based on comments from related organizations. By November 2006 rational way of water quality analysis is studied. By September 2009 manuals for wastewater monitoring and legal process for wastewater control are furnished. By May 2007 an inventory of industrial and agro-industrial effluents is prepared. By August 2009 sampling and quality analysis of wastewater is conducted for 400 industrial and agro-industrial wastewater generators (200 under the pilot project and the rest 200 by MARN). 	<ul style="list-style-type: none"> Proposed four strategies Approval by the Minister Comments from related organizations Revised four strategies Manuals or guidelines Inventory Map of sampling sites Results of water quality analysis 	<ul style="list-style-type: none"> Participation of counterpart personnel is ensured. Transfer of counterparts is less. The progress of the technical studies by industrial and agro-industrial wastewater generators is conducted on schedule. Budget for water quality analysis by MARN is ensured. Necessary information is provided in time.
<p>Output 2: Activities for the implementation of the wastewater regulation is commenced.</p>	<ul style="list-style-type: none"> Digital map data are collected from MAGA by September 2006. Water quality monitoring data are continuously collected from AMSA. By September 2008 database system of water environmental information is established. By September 2008 training for management of the database system is provided to more than 30 staff of MARN. Between September 2008 and August 2009 updating of the database is made appropriately by the staff of MARN. 	<ul style="list-style-type: none"> Agreement with AMSA Database system Training records 	<ul style="list-style-type: none"> Participation of counterpart personnel is ensured. Transfer of counterparts is less. The progress of the technical studies by industrial and agro-industrial wastewater generators is conducted on schedule. Budget for water quality analysis by MARN is ensured. Necessary information is provided in time.
<p>Output 3: Sustainable system of compilation and administration for water environmental information is established.</p>	<ul style="list-style-type: none"> Perception and knowledge on the wastewater regulation among the municipalities, industries and local residents is improved from XX points in October 2006 to XX points in September 2009. Materials for dissemination of the wastewater regulation are developed by March 2007. Materials of formal education are developed by December 2007. Trainer's training is provided to 30 staff of the Ministry of Education by September 2008. Monitoring of the teachers' training is conducted between October 2008 and August 2009. 	<ul style="list-style-type: none"> Questionnaire survey Materials for dissemination Materials of formal education Training records Monitoring report 	<ul style="list-style-type: none"> Participation of counterpart personnel is ensured. Transfer of counterparts is less. The progress of the technical studies by industrial and agro-industrial wastewater generators is conducted on schedule. Budget for water quality analysis by MARN is ensured. Necessary information is provided in time.
<p>Output 4: Environmental education and dissemination related to the wastewater regulation is implemented by MARN, based on the collaboration with related organizations.</p>	<ul style="list-style-type: none"> Policy and Strategy, Water Quality Management, PCM, Organization and Institution, Water Quality Information, Water Quality Information, Organization and Institution (5 persons) Stage2: Policy and Strategy, Wastewater Control, Environmental Education, Water Quality Information, Organization and Institution (5 persons) Training Programs Expenses Pilot projects Database system preparation Others 	<ul style="list-style-type: none"> Agreement with AMSA Database system Training records Monitoring report 	<ul style="list-style-type: none"> Participation of counterpart personnel is ensured. Transfer of counterparts is less. The progress of the technical studies by industrial and agro-industrial wastewater generators is conducted on schedule. Budget for water quality analysis by MARN is ensured. Necessary information is provided in time.
<p><Activities></p> <p>0-1: To review MARN's present condition regarding water environment conservation (legislation, strategies, activities, etc.)</p> <p>0-2: To examine feasibility of Activities 1-1 to 1-3, 2-1 to 2-3, 3-1 to 3-5, 4-1 to 4-3.</p> <p>0-3: To review and finalize PDM and PO for Stage 2 based on the 0-2 activity.</p> <p>1-1: To propose policies and strategies for effective enforcement of the wastewater regulation.</p> <p>1-2: To revise the proposed strategies based on comments from related organizations.</p> <p>1-3: To implement training for the staff of MARN and related organizations on water environment conservation policies and strategies.</p> <p>2-1: To prepare guideline for the implementation of wastewater control.</p> <p>2-2: To implement training for the staff of MARN and related organizations on wastewater control.</p> <p>3-1: To collect data on water environment information.</p> <p>3-2: To develop and manage water environmental information databases.</p> <p>3-3: To implement training for the staff of MARN and related organizations on data administration of water environment.</p> <p>4-1: To conduct environmental education/dissemination related to the wastewater regulation to the municipalities, industries and local residents.</p> <p>4-2: To develop environmental education materials, and provide trainer's training for water environmental education</p> <p>4-3: To implement training for the staff of MARN and related organizations on environmental education</p>	<p><Input></p> <p>Japanese side</p> <p>1. Experts :</p> <p>Stage 1: Policy and Strategy, Water Quality Management, PCM, Organization and Institution, Water Quality Information, Water Quality Information, Organization and Institution (5 persons)</p> <p>Stage2: Policy and Strategy, Wastewater Control, Environmental Education, Water Quality Information, Organization and Institution (5 persons)</p> <p>2. Training Programs</p> <p>3. Expenses</p> <p>(1) Pilot projects</p> <p>(2) Database system preparation</p> <p>(3) Others</p> <p>Guatemala side</p> <p>-For Stage 1 and Stage 2</p> <p>1. Counterpart personnel</p> <ul style="list-style-type: none"> Chairman of Joint Coordinating Committee and Project Director (1 person) Deputy Project Director (1 Person) Project Manager (1 Person) Working Group Members <p>2. Facilities for Japanese side</p> <p>The Guatemala side provides office space under the secure conditions. The facilities will be equipped with desks, meeting tables, communication equipment, etc.</p> <p>3. Equipment and materials</p> <p>The Guatemala side provides other necessary equipment and materials necessary for project implementation.</p> <p>4. Budget for project operation</p> <p>The Guatemala side provides salary and allowance for the staff of the Guatemalan side, including budget for travel expenses and operation expenses required under the project.</p>	<ul style="list-style-type: none"> Agreement with AMSA Database system Training records Monitoring report 	<ul style="list-style-type: none"> Participation of counterpart personnel is ensured. Transfer of counterparts is less. The progress of the technical studies by industrial and agro-industrial wastewater generators is conducted on schedule. Budget for water quality analysis by MARN is ensured. Necessary information is provided in time.
<p><Preconditions></p> <ul style="list-style-type: none"> Staff of MARN and other associated functions are assigned to the Project by an official instruction. 			<ul style="list-style-type: none"> Participation of counterpart personnel is ensured. Transfer of counterparts is less. The progress of the technical studies by industrial and agro-industrial wastewater generators is conducted on schedule. Budget for water quality analysis by MARN is ensured. Necessary information is provided in time.

Handwritten marks and signatures are present on the right side of the page, including a circled '23' and a signature at the bottom right.

Tentative Plan of Operations (Output-1)

Output-1: Strategy formulation capacity for effective enforcement of the wastewater regulation will be reinforced.

Activities	Expected Results	Schedule												Implementer	Materials and Equipment	Cost	Remarks					
		2006			2007			2008			2009											
		3	6	9	12	3	6	9	12	3	6	9	12					3	6	9	12	
1-1: To propose policies and strategies for effective enforcement of the wastewater regulation.																						
1-1-1: To propose financial frameworks for municipalities to construct and maintain treatment plants.	Proposed financial mechanism																		Working group 1	None	Cost for interview survey (Input by JICA)	
1-1-2: To propose a collaboration mechanism with municipalities for monitoring of wastewater	Proposed collaboration mechanism																		Working group 1	None	Minimal	
1-1-3: To propose incentives for industries to comply with the wastewater regulation.	Proposed Incentive measures																		Working group 1	None	Minimal	
1-1-4: To propose procedures for setup of water quality standards for public water bodies (classification of water bodies).	Proposed Procedures																		Working group 1	None	Minimal	
1-1-5: To obtain an official approval from the Minister of MARN	Approval																		Working group 1	None	Minimal	
1-2: To revise the proposed strategies based on comments from related organizations	Collected comments																					
1-2-1: To collect comments from related organizations	Collected comments																		Working group 1	None	Cost for seminars, materials (JICA Input)	
1-2-2: To revise the strategies based on the collected comments	Revised strategies																		Working group 1	None	Minimal	
1-3: To implement training for the staff of MARN and related organization on water environment conservation policies and strategies.																						
1-3-1: To organize a technology transfer seminar with Mexican expert invited as a lecturer.	One-week seminar																		JICA Project Team	Text, Seminar Place	Input by JICA	

Activities under the Project, ██████████ Activities under the responsibility of MARN

Tentative Plan of Operations (Output-2)

Output-2: Activities for the implementation of the wastewater regulation is commenced.

Activities	Expected Results	Schedule												Person in Charge	Implementer	Materials and Equipment	Cost	Remarks		
		2006			2007			2008			2009									
		3	6	9	12	3	6	9	12	3	6	9	12						3	6
2-1: To prepare guideline for the implementation of wastewater control.																				
2-1-1: To determine plan and program for the implementation of wastewater control	Implementation plan for wastewater control			■													Nadia	Working group 2	None	Minimal
2-1-2: To conduct an inventory survey for industrial factories in the study area.	Inventory of industrial factories			■													Flor	Working group 2	None	Minimal
2-1-3: To provide and modify legal guidance for the implementation of wastewater regulation and	Legal guidance			■													Serrano	Working group 2	None	Minimal
2-1-4: To study rational way for water quality analysis	Study results			■													Flor	Working group 2	None	Minimal
2-1-5: To collect information necessary for manual or guideline preparation.	Collected information			■													Nadia	Working group 2	None	Cost for traveling (Input by JICA)
2-1-6: To prepare a draft manual (1 st edition) of the wastewater control.	Draft Manual for wastewater control.			■													Flor & Eric	Working group 2	None	Minimal
2-1-7: To prepare 2 nd and 3 rd editions of the manual for the wastewater control.	Manual for wastewater control.			■													Flor & Eric	Working group 2	None	Minimal
2-1-8: To establish cooperation system with the competent agencies for water quality analysis	Agreement.			■													Nadia	Working group 2	None	Minimal
2-1-9: To implement monitoring and legal process as pilot project	Report of pilot project for wastewater control			■													Eric	Working group 2	Sampling Equipment	Input by JICA
2-1-10: To continue monitoring work for wastewater control				■													Eric	Working group 2	Sampling Equipment	Input by MARN
2-1-11: To evaluate monitoring work	Monitoring report			■													Kageyama	Working group 2	None	Minimal
2-1-12: To publish summary report of the wastewater monitoring results.	Summary report			■													Flor	Working group 2	None	Minimal
2-2: To implement training for the staff of MARN and related organization on wastewater control																				
2-2-1: To organize a technology transfer seminar with Mexican expert invited as a lecturer.	One-week seminar			■													Katayama	JICA Project Team	Text, Seminar Place	Input by JICA
2-2-2: To prepare guidance for the evaluation of the technical study				■													Nadia & Flor	Working group 2	None	Minimal
2-2-3: To organize workshop for the evaluation of the technical study (30 trainees)	5-day seminar			■													Nadia & Flor	Working group 2	Materials, Seminar place	Cost for Seminar (Input by JICA)
2-2-4: To provide training for the evaluation of technical study (5 trainees)	5-day training			■													Flor	Working group 2	None	Minimal
2-2-5: To dispatch the staff of MARN and related organizations to Mexico for technical training on sampling and water quality analysis.	Dispatch of person(s) of MARN and/or organization(s)			■													Kageyama	JICA Project Team	None	Input by JICA

Activities under the Project, ■ Activities under the responsibility of MARN

Tentative Plan of Operations (Output-3)

Output-3: Compilation and administration of water environment information will be systematized

Activities	Expected Results	Schedule												Person in Charge	Implementer	Materials and Equipment	Cost	Remarks		
		2006			2007			2008			2009									
		3	6	9	12	3	6	9	12	3	6	9	12						3	6
3-1: To collect data on water environmental information.																				
3-1-1: To make an agreement with AMSA for acquiring of water quality monitoring data	Agreements	☒															Nadia	Working group 3	None	Minimal
3-1-2: To collect water quality monitoring data from AMSA	Collected Data	☒		☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	Alejandro	Working group 3	None	Minimal	
3-1-3: To collect digital map data from MAGA	Digital map	☒														Alejandro	Working group 3	None	Minimal	
3-1-4: To digitize the inventory of industries	Digital data		☒													Bayron	Working group 3	None	Minimal	
3-1-5: To digitize the technical study results	Digital data			☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	Bayron	Working group 3	None	Minimal	
3-1-6: To digitize the wastewater monitoring results	Digital data			☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	Bayron	Working group 3	None	Minimal	
3-2: To develop and manage water environmental information database.																				
3-2-1: To design the database system for water environmental information.	Specification of database system.			☒												To be named	Working group 3	None	Minimal	
3-2-2: To establish the database system for water environmental information.	Database system															To be named	Working group 3	Software	Cost required (Input by JICA)	
3-2-3: To implement training on the database system for water environmental information.	Report of training															To be named	Working group 3	Computers	Minimal	
3-2-4: To operate and update the database system by MARN	Updating of system															Bayron	Working group 3	None	Minimal	
3-2-5: To evaluate operation and updating of the database system by MARN	Evaluation															Kurata	Working group 3	None	Minimal	
3-3: To implement training for the staff of MARN and related organization on data administration of water environment																				
3-3-1: To organize a technology transfer seminar with Mexican expert invited as a lecturer.	One-week seminar															Katayama	JICA Project Team	Text, Seminar Place	Input by JICA	

Activities under the Project,

 Activities under the responsibility of MARN

Tentative Plan of Operations (Group-4)

Output-4: Environmental education and dissemination related to the wastewater regulation is implemented by MARN, based on the collaboration with related organizations.

Activities	Expected Results	Schedule												Person in Charge	Implementer	Materials and Equipment	Cost	Remarks			
		2006			2007			2008			2009										
		3	6	9	12	3	6	9	12	3	6	9	12						3	6	9
4-1: To conduct environmental education/dissemination related to the wastewater regulation to the municipalities, industries and local residents.																					
4-1-1: To conduct guidance for the technical study to the industries and the municipalities	Guidance																				
4-1-2: To establish a collaboration system among the related organizations	Agreement																				
4-1-3: To prepare an environmental education/dissemination action plan	Action Plan																				
4-1-4: To conduct dissemination of importance of the wastewater regulation to the municipalities, industries and local residents.	Dissemination																				
4-2: To develop environmental education materials, and provide trainer's training for water environmental education for junior high school.																					
4-2-1: To establish collaboration system with related organizations for water environmental formal education.	Agreement																				
4-2-2: To prepare an action plan for trainer's training	Action plan																				
4-2-3: To develop materials for water environmental formal education	Materials																				
4-2-4: To provide training to school teachers' trainers	Training																				
4-2-5: To monitor training to school teachers by the trainers	Monitoring results																				
4-2-6: To evaluate the above process	Evaluation results																				
4-3: To implement training for the staff of MARN and related organization on environmental education																					
4-3-1: To organize a technology transfer seminar with Mexican expert invited as a lecturer.	One-week seminar																				
4-3-2: To dispatch the staff of MARN to Mexico for technical training on environmental education	Dispatch of MARN counterpart(s)																				

WG: Working Group

█ : Activities under the Project, ☒ : Activities under the responsibility of MARN