

JAPAN INTERNATIONAL COOPERATION AGENCY

DEPARTMENT OF THE INTERIOR AND LOCAL GOVERNMENT
THE REPUBLIC OF THE PHILIPPINES

THE STUDY ON THE
PROVINCIAL WATER SUPPLY, SEWERAGE AND
SANITATION SECTOR PLAN
IN
THE REPUBLIC OF THE PHILIPPINES

VOLUME II - [2]

SUPPORTING REPORT

PROVINCIAL WATER SUPPLY, SEWERAGE AND
SANITATION SECTOR PLAN
FOR THE PROVINCE OF

EASTERN SAMAR



DECEMBER 1999

NIPPON JOGESUIDO SEKKEI CO., LTD.

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VOLUME II SUPPORTING REPORT

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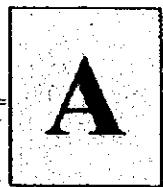
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**BACKGROUND INFORMATION
AND EXISTING CONDITIONS**

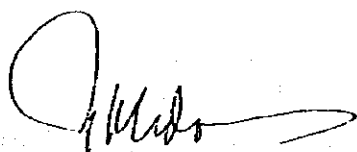


- 1. INTRODUCTION
- 1.3 The Provincial Plan for the Province of Eastern Samar
- 1.3.1 Preparation of the Plan

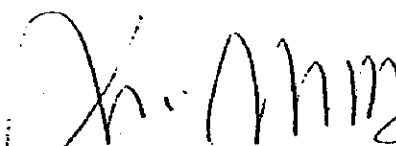
MINUTES OF DISCUSSIONS
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AGREED UPON BETWEEN
THE DEPARTMENT OF THE INTERIOR AND
LOCAL GOVERNMENT
AND
THE STUDY TEAM OF
JAPAN INTERNATIONAL COOPERATION AGENCY

MANILA, JANUARY 26, 1998



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Agency

Japan International Cooperation Agency (hereinafter referred to as "JICA"), the official agency responsible for the implementation of the technical cooperation programs of the Government of Japan, dispatched the Study Team to the Republic of the Philippines on January 13, 1998 to conduct "The Study on Provincial Water Supply, Sewerage and Sanitation Sector Plans for Visayas and Mindanao" (hereinafter referred to as "the Study") in accordance with the Implementing Arrangement for the Study executed between the JICA and the Department of the Interior and Local Government (hereinafter referred to as "DILG") on August 27, 1997.

A series of discussions were made on the Inception Report for the Study between the Study Team and the officials of DILG and other agencies concerned. In the course of the discussions, both parties have agreed with the general approach and methodology, and implementation arrangements detailed in the Inception Report. Also agreed upon were the changes made as to which provinces are to be covered in 1st batch and 2nd batch (refer to 1. Study Area). The list of attendees in the series of discussions is presented in Appendix A.

1. Study Area

The subject twenty-one (21) provinces were grouped into four batches in the "Implementing Arrangement on the Study". However, a delay in the organization of the Provincial Sector Planning Team (PSPT) in the 1st batch provinces of Misamis Oriental and Surigao del Sur prompted their transfer to the 2nd batch. Instead, Davao del Sur and Davao Oriental from the 2nd batch whose PSPTs were already formed were moved up in their place. In this connection, the DILG completed to exchange MOA with the provinces on the participation and full support by the provinces.

The present study area covers the following 21 provinces grouped into four batches.

1 st BATCH	2 nd BATCH	3 rd BATCH	4 th BATCH
1. Agusan del Norte	1. Davao	1. Biliran	1. Aklan
2. Agusan del Sur	2. Misamis Oriental	2. Eastern Samar	2. Antique
3. Davao del Sur	3. Sarangani	3. Leyte	3. Capiz
4. Davao Oriental	4. South Cotabato	4. Northern Samar	4. Iloilo
5. Surigao del Norte	5. Surigao del Sur	5. Southern Leyte	5. Negros
		6. Western Samar	Occidental

With regard to Davao province, the separation into two provinces is currently under legislative process. Upon the formalization of an additional province, the total number of the provinces in the study area would be 22. The DILG has requested that the forthcoming province be included in the study area. The JICA Study Team will relay the request to JICA headquarters for consideration. The DILG is expected to complete the execution of the MOAs of the 2nd batch provinces by early July to catch up with the planned schedule. The required arrangements in terms of subject provinces and study period will be discussed between the DILG and JICA.

2. General Approach and Methodology to the Study

The PW4SPs will be prepared with the full participation of the respective PSPTs together with DILG coordinators and the Study team in accordance with the approach and methodology outlined in the Inception Report. The following topics were confirmed during the discussions:

(1) Planning framework for future sector development

- a) Planning base year is 1997 for 1st and 2nd batches and 1998 for 3rd and 4th batches. Medium-term and long-term target years are 2005 (implementation program: year 2001 to year 2005) and 2010, respectively.
- b) Plan will be prepared in compliance with "Implementing Rules and Regulations of NEDA Board Resolution No. 4".

(2) Standard provision of school toilets

Discussions and confirmation on the provision of school toilets will be arranged with DECS.

(3) Options on the sludge removal from septic tank and its disposal will be shown in the plan.

(4) Model province for 1st batch is Agusan del Sur.

3. Sector Information Collection

The DILG and the JICA Study Team will continuously collect information on the projects/programs assisted by various financial sources. The information will be reflected in the plans.

4. Implementation Set-Up for the Study

In accordance with the Implementing Arrangements between the DILG and the JICA, the DILG shall:

- (1) Secure the safety of the JICA Study Team;
- (2) Assign DILG counterpart staff members who will coordinate and assist PSPTs at the provincial level;
- (3) Set-up PSPTs by respective provincial governments in the study area and secure budget to carry out the Study;
- (4) Through PSPT in each study area province; facilitate and coordinate in data gathering with municipal government and other agencies concerned, and participate in workshops and preparation of PW4SP;

- (5) Facilitate coordination with concerned agencies like DPWH, DOH, NEDA, LWUA and with appropriate bodies.

The JICA Study Team shall:

- (1) Pursue technology transfer to the Philippine counterpart personnel in the course of the Study and;
- (2) Assist PSPTs in the preparation of the PW4SP.

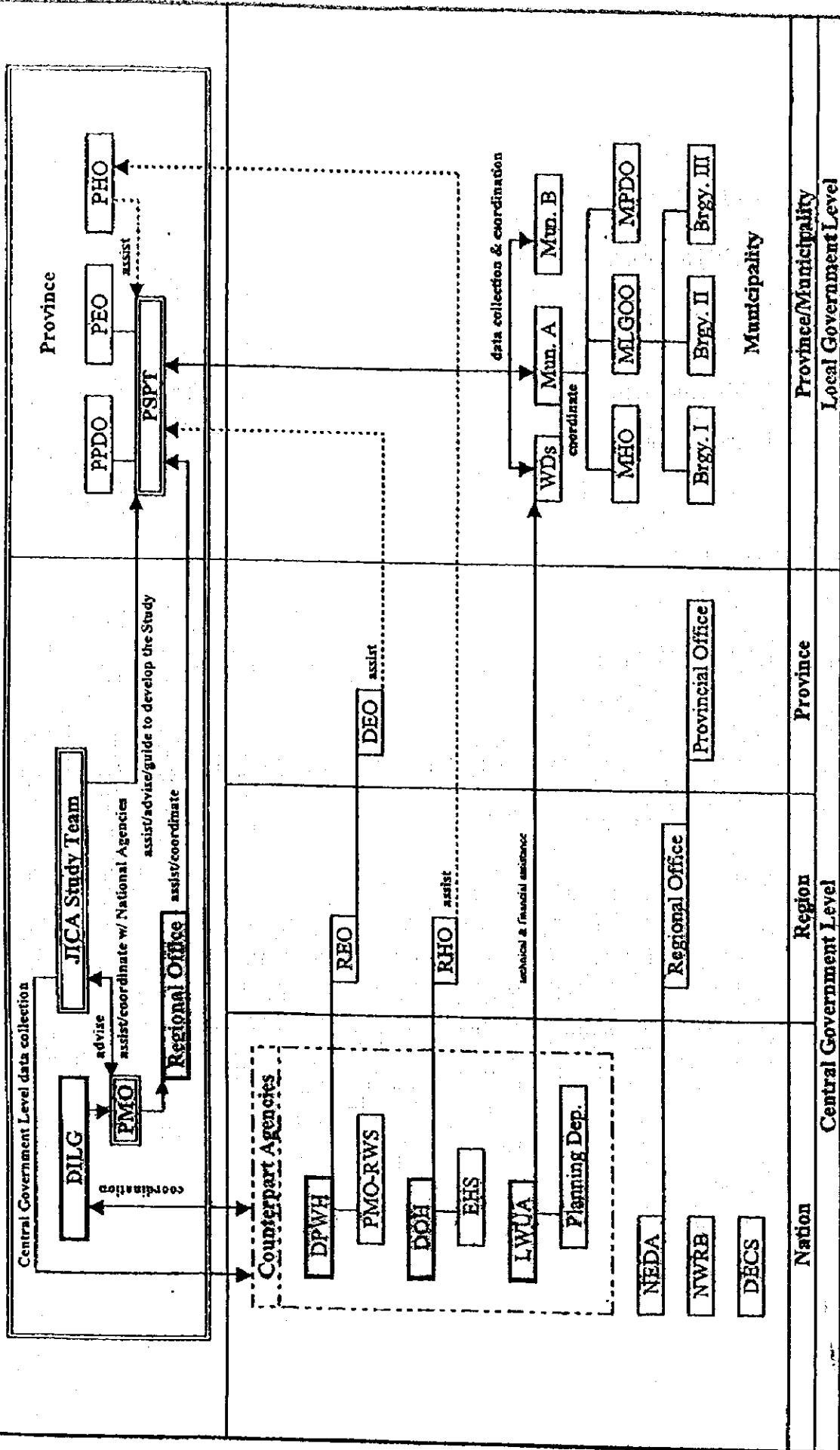
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LIST OF ATTENDEES IN THE SERIES OF DISCUSSIONS

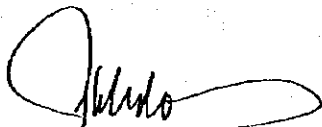
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1. Mr. Sam Siao	Officer, PMO-RWS, DPWH
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2. Mr. Keiichi Kanaya	Member, Advisory Committee
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E. JICA Study Team	
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2. Mr. Nobuki Abe	Water Supply/Sanitation Engineer
3. Ms. Consuelo B. Estepa	Community Dev't/WID Specialist
4. Ms. Elizabeth L. Verzola	Socio-Economic/Financial Specialist
5. Mr. Kenji Takayanagi	Water Source Development Specialist
6. Mr. Emmanuel L. Patingo	Data Management Specialist

Figure 1.3.1
Organization Chart for Study Implementation

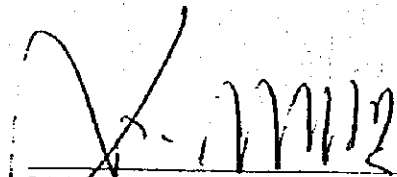


MINUTES OF DISCUSSIONS
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THE DEPARTMENT OF THE INTERIOR AND
LOCAL GOVERNMENT
AND
THE STUDY TEAM OF
JAPAN INTERNATIONAL COOPERATION AGENCY

MANILA, MARCH 18, 1998



MR. NORMANDO J. TOLEDO
Director
Office of the Project Development
Service
Dept. of the Interior and Local Government



MR. MASATOSHI MOMOSE
Team Leader, Study Team
Japan International Cooperation
Agency

The Stage I fieldwork for "the Study on Provincial Water Supply, Sewerage and Sanitation Sector Plan" started on January 13, 1998 and completed on March 23, 1998.

A series of discussions were held throughout the course of the Study, between JICA Study Team and officials concerned including DILG, NEDA, DOH, DPWH and other central government agencies and provinces. The general approach and methodologies, as presented in the Inception Report, have been employed for the fieldwork.

A Progress Report, which covers all outputs during the work period, was prepared entailing part of PW4SP for the respective provinces. The contents of the report were basically agreed upon on March 18, 1998 between JICA Study Team and officials of the DILG. The list of attendees to the meeting is presented in Appendix A. The following issues/problems on the arrangements required for the implementation of the Study were discussed, and the Study Team will relay the modified arrangements required to JICA headquarters.

(1) Modified Arrangements Required for 1st batch Study

1) Due to the presidential election scheduled on May 11, 1998, the second workshop may be held from May 18 to May 22, 1998 after the election, and tentatively starting the 2nd field work on May 13, 1998.

2) The venue for the final workshop was requested by concerned PPDCs to be held in Mindanao rather than in Manila as originally planned. This is because of the financial constraint on the travel expenses required for 7 members of respective PSPTs under the current GOP instruction to LGUs to reduce its planned annual expenditures of up to 25%.

(2) Provinces to be Covered by the 2nd Batch

The total number of provinces for the 2nd batch (5 provinces) will be kept as previously agreed between the two parties. However, Surigao del Sur will be omitted from the Study, since timely establishment of the PSPT by the province seems to be difficult. Instead of the said province, either the newly created Compostela Valley or Bukidnon (Region X) would be included.

The DILG will inform the Study Team of the possibility in the setting up of PSPT by the administration of Compostela Valley by the middle of June 1998. If not, DILG will make an advanced arrangement with Bukidnon.

(3) Electric Resistivity Prospecting and Test Boring

Comparatively reliable data to evaluate the development potential of water source were collected for 1st batch provinces during the fieldwork. It is assumed that the conduct of the field test for groundwater analysis, given a limited period, cannot be able to contribute significantly to the level of accuracy in the preparation of M/P and F/S. The situation will remain the same for 2nd batch provinces. Accordingly, it is not recommended to conduct field test for this study.

The required areas and the scope of work/surveys, such as field tests, will be recommended in the PW4SP and will be considered during detailed design and construction stages.

(4) Time Constraint in Data Collection/Validation/Follow-up

It was found, both by the Study Team and the DILG through the fieldwork, the following problems on data collection/validation/follow-up:

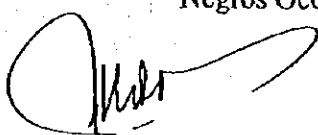
- 1) The summary reports on the sector status prepared by NEDA Regional Office through UNICEF fund were field confirmed as the materials to provide approximate sector situations in the fact of no existence of sector related information at present.
- 2) Data collection by PSPTs had sometimes to be done at the barangay level, due to limited data available in the municipal level. Thus, additional time was required for PSPTs to access to remote rural barangays.
- 3) Comprehensive planning work by the province in Mindanao area is still initial stage. It is necessary for the activities to ensure much more time through intensive technology transfer to DILG coordinators and PSPTs.

Based on the lessons learned, the Study Team and the DILG recognized the need of the review on the allotted period for the activities. The Study Team will relay this matter to JICA headquarters.

(5) Cities to be Covered in the Preparation of PW4SP

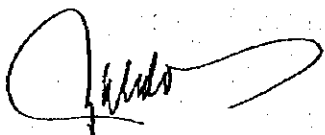
Of the three classes of cities in the Local Government Code, only component cities, which are under the jurisdiction of the provincial government will be considered. The subject cities are as follows:

<u>Province</u>	<u>Component City</u>
Surigao del Norte	Surigao City
Davao	Tagum City and Island Garden City
Leyte	Tacloban City
Western Samar	Calbayog City
Capiz	Roxas City
Iloilo	Passi City
Negros Occidental	Bago City, Cadiz City, La Carlota City, San Carlos City and Silay City



LIST OF ATTENDEES IN THE SERIES OF DISCUSSION


<u>ATTENDEES</u>	<u>DESIGNATION</u>
A. DILG	
1. Mr. Orville M. Roque	Program Manager, WSS-PMO
2. Ms. Ellen I. Pascua	Asst. Program Manager, WSS-PMO
3. Mr. Rogelio B. Ocampo	Chief, Planning Division, WSS-PMO
4. Ms. Fe Crisilla M. Banluta	PW4SP Project Officer, WSS-PMO
5. Ms. Charito Araza	Area Coordinator, WSS-PMO
6. Ms. Maria Contessa Navarro	Area Coordinator, WSS-PMO
7. Ms. Josephine Ramos	Area Coordinator, WSS-PMO
8. Ms. Susan Mangoda	Area Coordinator, WSS-PMO
9. Ms. Crisanta Rapirap	Area Coordinator, WSS-PMO
B. JICA Study Team	
1. Mr. Masatoshi Momose	Team Leader/Water Supply Planning
2. Mr. Nobuki Abe	Water Supply/Sanitation Engineer
3. Mr. Kenji Takayanagi	Water Source Development Specialist
4. Ms. Consuelo B. Estepa	Community Dev't./WID Specialist
5. Ms. Elizabeth L. Verzola	Socio-economic/Financial Specialist

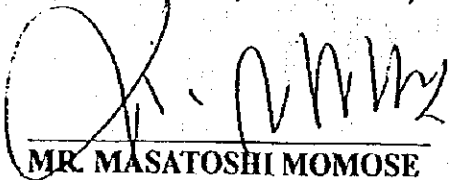


MINUTES OF DISCUSSIONS
ON
THE DRAFT FINAL REPORT
FOR
THE STUDY ON PROVINCIAL WATER SUPPLY, SEWERAGE AND
SANITATION SECTOR PLANS
FOR
VISAYAS AND MINDANAO
IN
THE REPUBLIC OF THE PHILIPPINES

AGREED UPON BETWEEN
THE DEPARTMENT OF THE INTERIOR AND
LOCAL GOVERNMENT
AND
THE STUDY TEAM OF
JAPAN INTERNATIONAL COOPERATION AGENCY

MANILA, AUGUST 27, 1998


MR. BENITO R. CATINDIG
Assistant Secretary for Support
Services and Regional Offices
Dept. of the Interior and Local Government


MR. MASATOSHI MOMOSE
Team Leader, Study Team
Japan International Cooperation
Agency

The Stage II fieldwork for "the Study on Provincial Water Supply, Sewerage and Sanitation Sector Plan" (hereinafter referred to as "the Study") resumed on May 20, 1998 and will be completed on March 30, 1999. Upon completion of the 1st batch study, the study for the 2nd batch will start on August 30 with an "Orientation Workshop". It is further scheduled that the 2nd batch study will be finalized by February 1999 and 3rd batch work will be commenced before the completion of this fieldwork.

Major conditions and assumptions for the development of Medium-Term and Long-Term sector plans for the subject provinces under the 1st batch were discussed and finalized between respective PSPTs and the JICA Study Team (hereinafter referred to as "the Team") through Workshop No. 2 (held between May 26 and 28, 1998) and during planning work thereafter. In this connection, the target year for the Medium-Term development plan was revised from 2005 to 2003 in order to realize the plan earlier.

The Draft Final Reports for the five (5) provinces of the 1st batch were prepared and the final workshop was conducted between August 24 and 26, 1998 to present and discuss the contents of the reports. The contents of the reports were basically agreed upon on August 27, 1998 by the Team and officials concerned on the Philippine side. The list of attendees to the meeting is presented in Appendix A. The following were confirmed and agreed upon by both parties.

1. Correction of typographical errors of the Draft Final Report will be undertaken by the Team prior to printing of the Final Report. The Final Report will be submitted by October 1998.
2. Adoption of the Plans by the Provincial Council (Sangguniang Panlalawigan) shall be facilitated by the DILG.
3. Inclusion of the Message of the Governor in the Main Report of respective PW4SPs.

With regard to the 2nd batch study, both parties have agreed on the general approach and methodology, and implementation arrangements adopted for the 1st batch study. Among them, the following are the basic conditions to be applied for the planning.

(1) Study Area

The DILG completed the exchange of MOA with the 2nd batch provinces on the participation and full support by the concerned provinces. The subject provinces are Misamis Oriental, Bukidnon, Davao del Norte, South Cotabato and Sarangani. The province of Bukidnon was selected for model province study.

(2) Planning Framework for Future Sector Development

- a) Planning base year is 1997 and Medium-Term and Long-Term target years are 2003 (implementation program: year 1999 to year 2003) and 2010, respectively.
- b) Plans will be prepared in compliance with the "Implementing Rules and Regulations of NEDA Board Resolution No. 4".

(3) Implementation Set-Up/Arrangements for the Study

The study will be conducted in accordance with the Implementing Arrangements between the DILG and the JICA, as done with the 1st batch study.

Both parties will make timely and effective arrangements through the study period to achieve the purpose of the Study within the set time-table based on the lessons learned from the 1st batch study. In this regard, the following are put into practice.

- a) Data collection by the PSPTs will be commenced in advance (overlapped activity with the preceding batch study) to ensure longer period for this activity as compared with the original time allotted.
- b) Planning period by the PSPTs will be extended by adjusting the timing for the conduct of 2nd workshop for data encoding and discussions to set-up planning fundamentals.
- c) Practical arrangements will be made to increase the opportunities for further collaboration in the planning work among PSPTs, DILG coordinators and the Team.

For the arrangement of the 3rd batch study, the DILG will confirm the subject provinces including the model province through the MOA by December 1998.

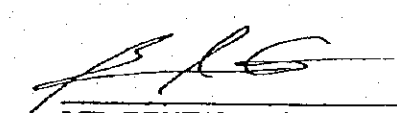
LIST OF ATTENDEES IN THE SERIES OF DISCUSSIONS

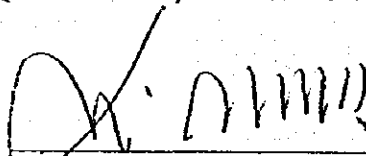
<u>ATTENDEES</u>	<u>DESIGNATION</u>
<i>A. DILG</i>	
1. Mr. Normando J. Toledo	Director, Office of Project Development Services
2. Ms. Ellen I. Pascua	Acting Program Manager, WSS-PMO
3. Mr. Rogelio B. Ocampo	Chief, Planning Division, WSS-PMO
4. Ms. Fe Crisilla M. Banluta	PW4SP Project Officer, WSS-PMO
<i>B. Other Agencies</i>	
1. Ms. Cristina Santiago	PIS, NEDA
<i>C. JICA Advisory Committee</i>	
1. Ms. Keiko Yamamoto	Chairman, Advisory Committee
2. Mr. Keiichi Kanaya	Member, Advisory Committee
<i>D. JICA Headquarters</i>	
1. Ms. Akiko Hayashi	Second Development Study Division, Social Development Study Depart.
<i>E. JICA Study Team</i>	
1. Mr. Masatoshi Momose	Team Leader/Water Supply Planning
2. Mr. Nobuki Abe	Water Supply/Sanitation Engineer
3. Mr. Kenji Hiramatsu	Institutional Specialist
4. Ms. Consuelo B. Estepa	Community Dev't./Gender Specialist
5. Ms. Elizabeth L. Versoza	Socio-Economic/Financial Specialist
6. Mr. Emmanuel L. Patingo	Data Management Specialist

MINUTES OF DISCUSSIONS
ON
THE DRAFT FINAL REPORT (2nd BATCH)
FOR
THE STUDY ON PROVINCIAL WATER SUPPLY, SEWERAGE AND
SANITATION SECTOR PLANS
FOR
VISAYAS AND MINDANAO
IN
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AGREED UPON BETWEEN
THE DEPARTMENT OF THE INTERIOR AND
LOCAL GOVERNMENT
AND
THE STUDY TEAM OF
JAPAN INTERNATIONAL COOPERATION AGENCY

QUEZON CITY, FEBRUARY 22, 1999


MR. BENITO R. CATINDIG
Assistant Secretary
Dept. of the Interior and Local Government


MR. MASATOSHI MOMOSE
Team Leader, Study Team
Japan International Cooperation Agency

The Stage II fieldwork for "the Study on Provincial Water Supply, Sewerage and Sanitation Sector Plan" (hereinafter referred to as "the Study") resumed on May 20, 1998 and will be completed on March 30, 1999.

The study for the 2nd batch started on August 30, 1998 and will be completed with the final workshop scheduled between February 24 and 26, 1999. During the finalization stage of the 2nd batch study, the study for the 3rd batch was started with an "Orientation Workshop" on February 8 to 10, 1999. It is further scheduled that the 3rd batch study will be finalized by the end of this year.

With regard to the 2nd batch study, major conditions and assumptions for the development of Medium-Term and Long-Term sector plans for the subject provinces were discussed and finalized between the respective PSPTs and the JICA Study Team (hereinafter referred to as "the Team") during Workshop No. 2 between November 4 to 6, 1998 and also at the time of the planning work thereafter. For the entire duration of the planning work, the Team stayed intermittently in Davao City, Cagayan de Oro City and Malaybalay City for better collaboration with the PSPTs.

The Draft Final Reports for the five (5) provinces of the 2nd batch were prepared and discussed on the contents of the reports between the respective PSPTs and the Team during February 15 and 19, 1999. The contents of the reports were basically agreed upon on February 22, 1999 by the Team and the officials concerned in the Philippine side in consideration of the discussion results with PSPTs.

The list of attendees to the meeting on February 22, 1999 is presented in Appendix A. The followings were confirmed and agreed upon by both parties.

1. Further modification/correction on the Draft Final Report will be undertaken by the Team prior to printing of the Final Report based on the discussions with PSPTs. The Final Report will be sent by May, 1999.
2. Adoption of the Plans by the Provincial Council (Sanggunian Panlalawigan) will be pursued and facilitated by the DILG.
3. Inclusion of the Message of the Governor in the Main Report of respective PW4SPs.

Concerning the 3rd batch study, both parties have agreed on the general approach and methodology, and implementation arrangements adopted for the previous batch studies. Among others, the followings are the basic conditions to be applied for the planning.

(1) Study Area

The DILG completed the exchange of MOAs with the 3rd batch provinces regarding the participation and full support by the concerned provinces. The subject provinces are Northern Samar, Eastern Samar, Samar, Biliran, Leyte and Southern Leyte. The province of Leyte was selected for model province study.

(2) Planning Framework for Future Sector Development

- a) Planning base year is 1998 and Medium-Term and Long-Term target years are 2004 (implementation program: year 2000 to year 2004) and 2010, respectively.
- b) Plans will be prepared in compliance with the "Implementing Rules and Regulations of NEDA Board Resolution No. 4", Series of 1994.

(3) Implementation Set-Up/Arrangements for the Study

The study will be conducted in accordance with the Implementing Arrangements between the DILG and the JICA, as done with the 1st and 2nd batch studies.

Both parties will make timely and effective arrangements throughout the study period to achieve the purpose of the Study within the set time-table based on the lessons learned from previous batch studies. In this regard, the following will be put into practice.

- a) Data collection by the PSPTs will start in advance (overlapped activity with the preceding batch study) to ensure longer period for this activity as compared with the original time allotted.
- b) Planning period by the PSPTs will be extended by adjusting the timing for the conduct of the 2nd workshop for data encoding and discussions to set-up planning fundamentals.
- c) Practical arrangements will be made to increase the opportunities for further collaboration in the planning work among PSPTs, DILG coordinators and the Team.

For the arrangement of the 4th batch study, the DILG will confirm the subject provinces including the model province through a MOA by May, 1999.

LIST OF ATTENDEES IN THE SERIES OF DISCUSSIONS

	<u>ATTENDEES</u>	<u>DESIGNATION</u>
<i>A.</i>	<i>DIIG</i>	
1.	Mr. Benito R. Catindig	Assistant Secretary
2.	Ms. Ellen I. Pascua	Program Manager, WSS-PMO
3.	Mr. Rogelio B. Ocampo	Chief, Planning Division, WSS-PMO
4.	Ms. Fe Crisilla M. Banluta	PW4SP Project Officer, WSS-PMO
<i>B.</i>	<i>Other Agencies</i>	
1.	Ms. Christina Santiago	PIS, NEDA
<i>C.</i>	<i>JICA Advisory Committee</i>	
1.	Ms. Keiko Yamamoto	Chairman, Advisory Committee
2.	Mr. Keiichi Kanaya	Member, Advisory Committee
<i>D.</i>	<i>JICA Study Team</i>	
1.	Mr. Masatoshi Momose	Team Leader/Water Supply Planning
2.	Mr. Nobuki Abe	Water Supply/Sanitation Engineer
3.	Mr. Kenji Hiramatsu	Institutional Specialist
4.	Mr. Nobukatu Sakiyama	Water Source Specialist
5.	Ms. Consuelo B. Estepa	Community Dev't./Gender Specialist
6.	Ms. Elizabeth L. Versola	Socio-Economic/financial Specialist
7.	Mr. Emmanuel Patingo	Data Management Specialist

2. PLANNING APPROACH FOR FUTURE SECTOR DEVELOPMENT

2.6 Planning Principles and Data Management

2.6.2 Data Management

(1) Computer-based System

The data management system was established to support the Provincial Sector Planning Team (PSPT) in the preparation of the Provincial Water Supply, Sewerage and Sanitation Sector Plan (PW4SP). An essential task of data management is to organize various kind of data an effective and efficient information base.

A computer-based system was applied as a viable solution to process large amount of data and to minimize the human-error in calculation. For this particular project, a dynamic system is designed to allow the planner to adjust planning factors and update the information when further data becomes available.

It is viable and economical t choose the microcomputer with software suitable for the average skills of the common user. In this connection, of the two types of software package available, database and spreadsheet, the latter method was selected. Among the available spreadsheet-type software, EXCEL was used. Excel support file conversion (opening and saving), multiple file opening, graphic presentation of data, What-You-See-Is-What-You-Get (WYSIWYG) formatting, scaleable font and view, etc. The following are the advantage and disadvantages of the spreadsheet method with reference to database method.

Advantage	Disadvantage
1. Minimum programming skills	1. Repeated entry of same formula
2. Friendly environment to users	2. Sorting or indexing is done manually
3. Graphics presentation of data at user's option.	3. All data are loaded in memory, which require huge amount of memory.
4. Execution of data linkages at formula level entry	4. Limited to static data linkages
5. Guided formula creation using function wizard	

Data management task starts from the collection of data using the questionnaire forms. The existence and accuracy of data are major concern at this stage to prepare main information bases. Using the microcomputer provided with EXCEL spreadsheet, data in the questionnaire forms are transferred into the forms constructed in EXCEL. Applicable policy, criteria and assumption are entered into key parameter tables. These data are then processed and finally consolidated into target forms. These final provide a map of provincial profile, service coverage, future requirements, cost estimates for future sector development, and funding requirements.

Table 2.6.1 Key Parameter

No.	Description of Key Parameter		Unit	Values	
1.	Service Level	Water Supply			
		Number of household to be served by Level I Facility	HH/Source		
		Number of household to be served by Level II System	HH/Public Faucet		
		Water Consumption Rate for Level III System	Liter/capita/day		
		Sanitation			
		Std. number of student to be served by a unit of Sanitary toilet	Student/Toilet		
		Standard number of toilets for a public utility	Toilet/Public Facility		
2.	Provincial Sector Target	Medium Term Plan	Water Supply		
			Urban Water Supply	% of Population	
			Rural Water Supply	% of Population	
			Sanitation		
			Household Toilet		
			Urban Household Toilet	% of Household	
			Flush	% of Household	
			Pour Flush	% of Household	
			VIP Latrine	% of Household	
			Rural Household Toilet	% of Household	
			Flush	% of Household	
			Pour Flush	% of Household	
			VIP Latrine	% of Household	
			School Toilet	% of Public Student	
			Public Toilet	% of Public Utility	
		Solid Waste	% of Population		
		Long Term Plan	Water Supply		
			Urban Water Supply	% of Population	
			Rural Water Supply	% of Population	
			Sanitation		
			Household Toilet		
			Urban Household Toilet	% of Household	
			Flush	% of Household	
			Pour Flush	% of Household	
			VIP Latrine	% of Household	
			Rural Household Toilet	% of Household	
			Flush	% of Household	
Pour Flush	% of Household				
VIP Latrine	% of Household				
School Toilet	% of Public Student				
Public Toilet	% of Public Utility				
Urban Sewerage	% of Urban Population				
3.	Percentage of Level I Deep Wells to be Rehabilitated		%		
4.	Percentage of Sector Management Cost to Construction Cost				
	Feasibility and Detail Design	% of Construction Cost			
	Construction Supervision	% of Construction Cost			
5.	Community Development and Training Cost				
	Level III	% of Construction Cost			
	Level I, II and Public Toilet		% of Construction Cost		
6.	Recurrent Cost	Level III System (Operating Cost)	Pesos/HH/year		
		Level III System (Spare Parts/Equipment)	% of Construction Cost		
		Level II System (Spare Parts/Equipment)	Pesos/HH/year		
		Level I System (Spare Parts/Equipment)	Pesos/HH/year		
		Public School Toilet Maintenance Cost	Pesos/Toilet/year		
		Public Utility Toilet Maintenance Cost	Pesos/Toilet/year		
7.	Allocation factors/Percentages of IRA				
	From Provincial	%			
	From Municipality and Brgy.	%			
8.	Funding Levels/Percentages for Different Financing Scenarios				
	1st Scenario	% Funding Available			
	2nd Scenario	% Funding Available			
	3rd Scenario	% Funding Available			
	4th Scenario	% Funding Available			
	5th Scenario	% Funding Available			

Table 2.6.2 Composition of Well Sources and Specific Capacity

Name of Municipality	Type	Type Water Source	Proportion (%)	Standard Specification		
				Depth (m)	SWL (m)	Specific Capacity (liter/sec/m)
	Urban	Shallow Well				
		Deep Well				
		Spring				
	Rural	Shallow Well				
		Deep Well				
		Spring				
	Urban	Shallow Well				
		Deep Well				
		Spring				
	Rural	Shallow Well				
		Deep Well				
		Spring				
	Urban	Shallow Well				
		Deep Well				
		Spring				
	Rural	Shallow Well				
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	Rural	Shallow Well				
		Deep Well				
		Spring				
	Urban	Shallow Well				
		Deep Well				
		Spring				
	Rural	Shallow Well				
		Deep Well				
		Spring				

Sub-Sector	Component	1999	2000	2001	2002	2003	Total
Urban Water Supply	Level III System						
	Feasibility Study and Detail Design						
	Construction & Supervision Community Development & Training						
Rural Water Supply	Level I Facility						
	Detail Design						
	Construction & Supervision						
	Community Development & Training						
	Level II System						
Sanitation	Detail Design						
	Construction & Supervision						
	Community Development & Training						
	Urban Household Toilet						
	Rural Household Toilet						
	Public School Toilet						
	Public Toilet						
Disinfection of Level I Wells							

Table 2.6.4 Level I Safe & Unsafe Percentage

Name of Municipality	Safe (%)	Unsafe (%)
Provincial Total		

Table 2.6.5 Unit Construction Cost of Different Facilities

Description	Unit Construction Cost (Pesos)	Service Coverage		Unit Cost	
		Served Population	Served Household	Pesos/ Person	Pesos/ Household
Water Supply					
<i>Level III - New System</i>					
For 5000 Population					
For 10000 Population					
For 15000 Population					
<i>Level III - Expansion</i>					
For 5000 Population					
For 10000 Population					
For 15000 Population					
<i>Level II</i>					
<i>Level I</i>					
Deep Well - 40 meter depth					
Deep Well - 80 meter depth					
Deep Well - 120 meter depth					
Shallow Well - 18 meter depth					
Spring Development					
<i>Rehabilitation Cost for Level I Deep Well</i>					
<i>Disinfection of Level I Wells</i>					
Sanitation					
Flush					
Pour Flush					
VIP / Dry					
School Toilet					
Public Toilet					
Urban Sewerage					

Table 2.6.6 Scoring Factor for Municipal Investment Ranking for Urban Water Supply

Score	Underserved and Unserved Population in Base Year	Underserved and Unserved Population in Phase I	Population Unserved by Level III Systems in Base Year
1.0	< %	< %	< %
0.8	< % < 40	< % <	< % <
0.6	< % < 30	< % <	< % <
0.4	< % < 20	< % <	< % <
0.2	% < 10	% <	% <
Weight Allocation Score (%)			

Table 2.6.7 Scoring Factor for Municipal Comprehensive Investment Ranking

Score	Urban Water Supply	Rural Water Supply	Urban Sanitation	Rural Sanitation
1.0	N.A.	< %	< %	< %
0.8	N.A.	< % <	< % <	< % <
0.6	N.A.	< % <	< % <	< % <
0.4	N.A.	< % <	< % <	< % <
0.2	N.A.	% <	% <	% <
Weight Allocation Score (%)				

3. PROVINCIAL PROFILE

3.3 Socio-economic Conditions

3.3.1 Economic Activities and Family Income

Table 3.3.1 Distribution of Families by Income Class

Income Class	Eastern Samar				Region VIII	
	Total Families		Annual Income		Total Number of Families	Annual Income Average (Pesos)
	Number	Share	Total (P '000.00)	Average (Pesos)		
Under 15,000	8,482	10	100,626	11,864	87,207	13,748
15,000 - 19,999	11,659	14	290,531	24,918	85,948	22,862
20,000 - 29,999	15,386	19	465,064	30,226	180,372	30,065
30,000 - 39,999	17,811	22	887,018	49,803	137,133	42,930
40,000 - 59,999	14,884	18	1,134,537	76,225	120,101	62,345
60,000 - 99,999	11,385	14	1,407,056	123,591	58,068	112,836
100,000 - 249,999	2,401	3	687,607	286,395	23,431	232,048
250,000 and over		0			1,418	473,960

Source: 1994 Family Income and Expenditures Survey by NSO

Notes:

- (1) Derived from Region VIII FIES.
- (2) Based on NEDA and other agencies, poverty threshold in Region VIII was estimated at P=37,053 (P 6,444 annual per capita poverty threshold).
- (3) For purposes of the survey, a family is defined as a group of persons usually living together and composed of the head and other persons related by blood, marriage and adoption. A single person living alone is considered as a separate family. A household is composed of 1 or more families in the same housing unit and has a common arrangement of food preparation and consumption.

Table 3.3.2 Employment by Major Industry Group and Class of Worker, 1995

Major Industry Group	Household Population 15 years and Over Who Worked	Class of Worker							Not Reported
		Worked for Private Household (Domestic Services)	Worked for Private Business/ Enterprise/ Farm	Worked for Government/ Government Corporation	Self-employed Without Any Paid Employee	Employer in Own Farm or Business	Work With Pay in Own Family Operated Farm or Business	Work Without Pay in Own Family Operated Farm or Business	
Agriculture, Hunting and Forestry	61,534	154	7,864	142	27,191	5,249	449	20,011	474
Fishing	11,301	14	371	3	9,106	90	6	1,661	50
Mining and Quarrying	289	0	163	2	115	0	0	9	0
Manufacturing	3,337	41	1,043	7	1,915	83	12	226	10
Electricity, Gas and Water	299	4	229	11	45	7	0	3	0
Construction	3,774	211	2,921	55	548	15	2	11	11
Trade	9,986	25	1,329	6	6,936	419	52	1,193	26
Services	28,299	6,975	4,468	13,550	2,804	201	37	221	43
Not Stated	165	4	66	5	26	3	0	9	52
Provincial Total	118,984	7,428	18,454	13,781	48,686	6,067	558	23,344	666

Source: 1995 NSO Socioeconomic and Demographic Characteristics

3.3.3 Education

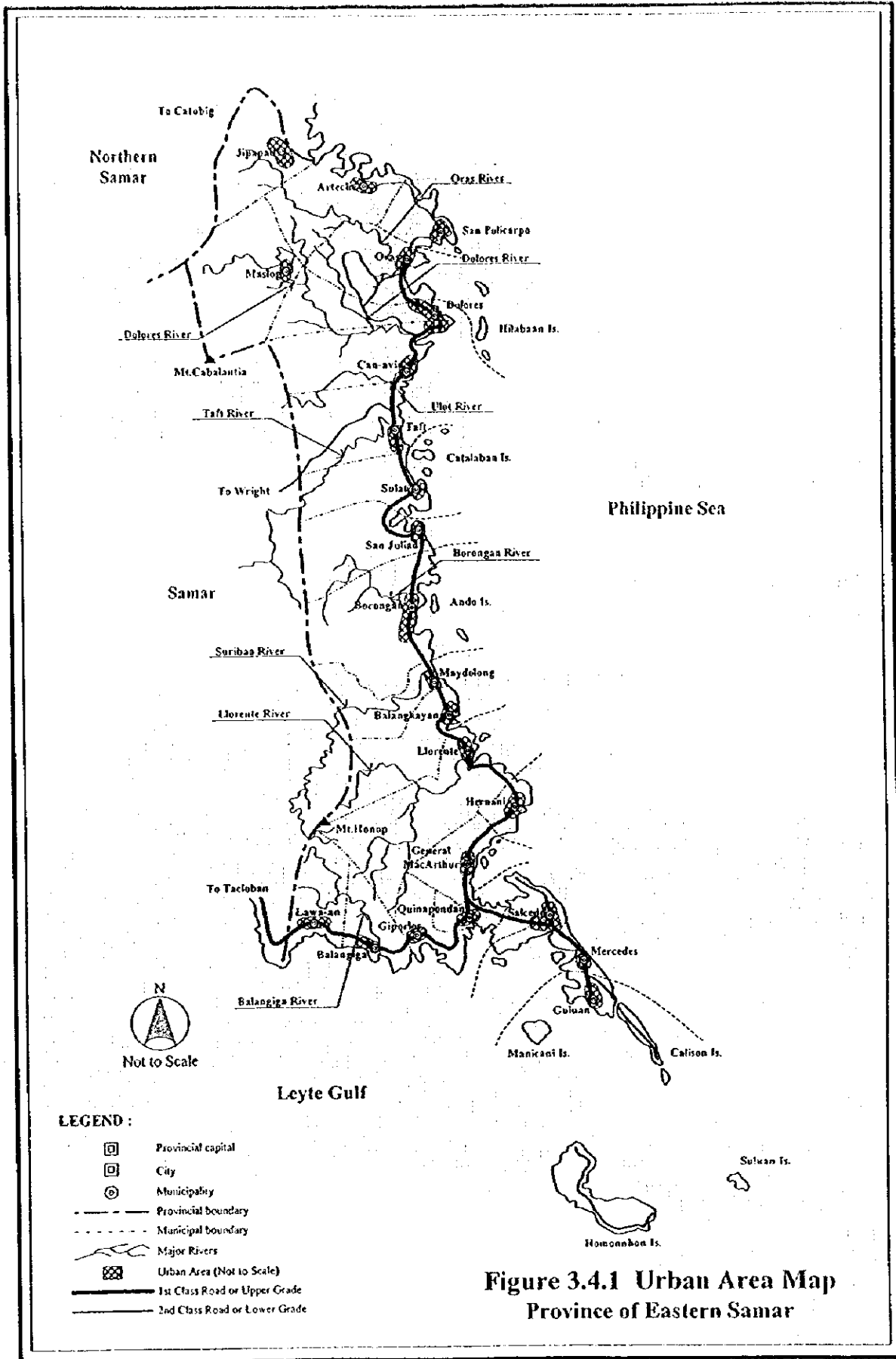
Table 3.3.3 Household Population by Highest Educational Attainment

Highest Educational Attainment	Household Population 5 years Old and Over	Age Group				
		Below 20	20 - 24	25 - 29	30 - 34	35 and Over
No Grade Completed	27,489	19,044	619	588	536	6,702
Pre-school	11,466	10,948	60	51	51	356
Elementary						
1st - 4th Grade	79,330	47,541	3,253	2,975	2,888	22,673
5th - 7th Grade	76,860	22,097	6,003	6,141	5,903	36,716
High School						
Undergraduate	45,346	21,572	5,564	4,167	3,124	10,919
Graduate	26,375	4,523	5,175	4,223	3,360	9,094
Post Secondary						
Undergraduate	591	121	191	89	55	135
Graduate	2,498	178	728	537	338	717
College Undergraduate	16,260	3,409	4,515	2,489	1,880	3,967
Academic Degree Holder	16,259	88	2,398	3,166	2,741	7,866
Post-Baccalaureate	931	1	39	118	97	676
Not Stated	4,728	2,976	328	220	199	1,005
Total	308,133	132,498	28,873	24,764	21,172	100,826

Source: 1995 NSO Socioeconomic and Demographic Characteristics

3.4 Population

3.4.1 Classification of Urban and Rural Area



3.5 Health Status

Table 3.5.1 Number and Ratio of Population to Health Facilities and/or Medical Practitioners

Health Facilities and Practitioners	Eastern Samar		Philippines	
	Number	Ratio	Number	Ratio
Health Facilities				
Hospital	12	1/31,093	1,700	1/40,206
Rural Health Units	26	1/14,351	2,335	1/29,272
Barangay Health Station	102	1/3,658	11,646	1/5,869
Practitioners				
Doctors	23	1/16,223	6,913	1/9,887
Nurses	28	1/13,326	8,849	1/7,724
Midwives	127	1/2,938	10,831	1/6,311
Dentists	23	1/16,223	1,895	1/36,068
Others Medical Practitioner				

Source: PSPT and 1997 Philippine Statistical Yearbook.

3.6 Environmental Conditions

3.6.2 Water Pollution

Table 3.6.1 Types of Drainage Facilities

Type	Length (km)
Drainage Main	16
Open Channel (with Concrete & rubble masonry)	14
Open Ditches & Unlined Laterals	6
Reinforced Concrete Circular Pipes	7
Street Gutters	21
Outfalls to rivers from drainage mains	5

Source: PSPT

Table 3.6.2 DENR Water Quality Criteria/Water Usage and Classification for Fresh Water

Parameter	Unit	Class AA	Class A	Class B	Class C	Class D
Color	PCU	15	50	(C)	(C)	(C)
Temperature (max. rise in deg. Celsius)	°C rise	--	3	3	3	3
pH (range)		6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5	6.0-9.0
Dissolve Oxygen (Minimum)	%satn	70	70	70	60	40
	mg/L	5.0	5.0	5.0	5.0	3.0
5-Day 20°C BOD	mg/L	1	5	5	7(10)	10(15)
Total Suspended Solids	mg/L	25	50			
Total Dissolved Solids	mg/L	500	1,000	--	--	1,000
Surfactants (MBAS)	mg/L	nil	0.2(0.5)	0.3(0.5)	0.5	--
Oil/Grease (Petroleum Ether Extract)	mg/L	nil	1	1	2	5
Nitrate as Nitrogen	mg/L	1	10	NR	10	--
Phosphate as Phosphorous	mg/L	nil	0.1	0.2	0.4	--
Phenolic Substances as Phenols	mg/L	nil	0.002	0.005	0.02	--
Total Coliforms	MPN/100mL	50	1,000	1,000	5,000	--
or Fecal Coliforms	MPN/100mL	20	100	200	--	--
Chloride as Cl	mg/l	250	250	--	350	--
Copper	mg/L	1	1	--	0.05	--

Notes:

Class AA - Public Water Supply Class I. Intended for waters having watersheds that are uninhabited and otherwise protected and which require only approved disinfection in order to meet the national standards for drinking water.

Class A - Public Water Supply Class II. Sources of water supply that will require complete treatment (coagulation, sedimentation, filtration and disinfection) in order to meet drinking water standards.

Class B - Recreational Water Class I. For primary contact recreation such as bathing, swimming skin diving, etc. (particularly for tourism purposes).

Class C - Fishery Water for the propagation and growth of fish and other aquatic resources; recreational (for boating, etc.); industrial water supply class I for manufacturing processes after treatment.

Class D - For agriculture, irrigation, livestock watering, etc.; for industrial water supply class II (cooling, etc.); other inland waters by their quality, belong to this specification.



4. EXISTING FACILITIES AND SERVICE COVERAGE

4.1 Water Supply

4.1.3 Level III Systems

Table 4.1.1 Details on Existing Level III Systems

Sheet 1 of 4

Name of Municipality	Name of Operating Body	Level III Service								
		Number of Barangays Served			Number of Households Served			Number of Population Served		
		Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Balangkayan	Balangkayan WS	5		5	157		157	1,256		1,256
Borongan (Capital)	Borongan WD	16	1	17	1,216	32	1,248	6,348	160	6,508
	Camada		1	1		30	30		159	159
	Municipal Total	16	2	18	1,216	62	1,278	6,348	319	6,667
Llorente	Llorente WD	8		8	105		105	506		506
Maydolong	Maydolong WS	7	1	8	231	19	250	1,150	116	1,266
Salcedo	Salcedo WS	12		12	243		243	1,458		1,458
Sulat	Sulat WD	5		5	732		732	3,726		3,726
Provincial Total		53	3	56	2,684	81	2,765	14,444	435	14,879

Table 4.1.1 Details on Existing Level III Systems

Sheet 2 of 4

Name of Municipality	Name of Operating Body	Level II Service								
		Number of Public Faucets			Number of Households Served			Number of Population Served		
		Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Balangkayan	Balangkayan WS	18		18	90		90	1,710		1,710
Borongan (Capital)	Borongan WD									
	Camada		3	3		18	18		108	108
	Municipal Total		3	3		18	18		108	108
Llorente	Llorente WD	1		1	5		5	30		30
Maydolong	Maydolong WS	38		38	190		190	1,140		1,140
Salcedo	Salcedo WS	2		2	10		10	60		60
Sulat	Sulat WD	10		10	50		50	255		255
Provincial Total		69	6	75	345	36	381	3,195	216	3,411

Table 4.1.1 Details on Existing Level III Systems

Sheet 3 of 4

Name of Municipality	Name of Operating Body	Water Sources			Consumption			
		Type ¹	Number	Production (cu.m/day)	Domestic	Institutional	Commercial	Industrial
Balangkayan	Balangkayan WS	SP			78			
Borongan	Borongan WD	SP			676	1,219	898	
	Camada	SP	1	11				
	Municipal Total							
Llorente	Llorente WD	SP	1	2,160	376			
Maydolong	Maydolong WS	SP	1					
Salcedo	Salcedo WS	SP/DW	2					
Sulat	Sulat WD	DW	1	65				
Provincial Total			6	2,236	1,130	1,219	898	

Note: 1. Type of Water Source; DW - Deep Well, DgW - Dug Well, Surf - Surface Water (River), SP - Spring, and IG - Infiltration Gallery

Table 4.1.1 Details on Existing Level III Systems
Sheet 4 of 4

Name of Municipality	Name of Operating Body	Consumers														
		Domestic House Connections			Domestic Public Faucets			Institutional Consumers			Commercial Consumers			Industrial Consumers		
		Connection		Consumption (m ³ /day)	Connection		Consumption (m ³ /day)	Connection		Consumption (m ³ /day)	Connection		Consumption (m ³ /day)	Connection		Consumption (m ³ /day)
		Metered	Unmetered		Metered	Unmetered		Metered	Unmetered		Metered	Unmetered		Metered	Unmetered	
Batangayan	Batangayan WS	157	10	66.52	8	10	11.10									
Borongan	Borongan WD	1,248		675.87				29		1,218.94		51		898.25		
	Camada		30			3										
	Municipal Total	1,248	30	675.87		3		29		1,218.94		51		898.25		
Llorente	Llorente WD	105		375.73	1		0.33									
Maydolong	Maydolong WS	210	40		38			3	1							
	Salcedo WS		243			2										
Sulat	Sulat WD	150						4								
Provincial Total		21,213	11,181	16,433.67	42	55	1.36	146	11	525.67	2,589		2,216.29	7		1.50

4.1.4 Level II Systems

Table 4.1.2 Details on Existing Level II Systems
Sheet 1 of 6

Name of Municipality	Name of Operating Body	Water Source			Existing Facilities				
		Type	Number	Discharge (m ³ /day)	Length of Transmission Line (meter)	Reservoir Number	Reservoir Volume (m ³)	Length of Distribution Line (meter)	Number of Public Faucets
Balanga	Guinayyohan	SP	1		2,500				7
	Maybunga	SP	1		1,000				2
	Santa Rosa	SP	1		1,400	1	13.8		40
	Municipal Total	SP	3		4,900	1	13.8		49
	Bonowangan	SP	1	43.2	500			100	5
	Calico-an	SP	1	62.6		1	18.7	140	6
	Calingangan	SP	1	13.6	400			200	3
	San Gabriel BWSA	SP	1	164.2	1,500				16
	San Jose	SP	1	432.0	1,000			650	3
	San Mateo BWSA	SP	1	691.2					8
Can-avid	San Saturnino	SP	1	10.9					3
	Siha	SP	1	259.2	1,200				2
	Solutan	SP	1	129.6	1,000				3
	Municipal Total	SP	9	1,806.4	5,600	1	18.7	1,090	49
	Balagon WS	SP	1	864.0	250	1	9.0	15	6
	Baruk WS	SP	1	86.4	100	1	9.0	20	2
	Boco BWSA	SP	1	864.0	200	1	9.0	15	4
	Cagahalong BWSA	SP	1	864.0	250	1	9.0	15	4
	Camantaug BWSA	SP	1	432.0		1	9.0		10
	Can-ilay WS	SP	1	864.0	350			20	7
Guibuangan WS	SP	1	86.4	2,500	1	9.0	20	4	
Jepaco BWSA	SP	1	432.0	200	1	9.0	20	4	
Mabuhay WS	SP	1	864.0	1,000	1	9.0	20	6	
Malogo WS	SP	1	432.0	350			10	2	

Table 4.1.2 Details on Existing Level II Systems (Cont'd.)

Sheet 1 of 6

Name of Municipality	Name of Operating Body	Water Source			Existing Facilities				
		Type	Number	Discharge (m ³ /day)	Length of Transmission Line (meter)	Reservoir		Length of Distribution Line (meter)	Number of Public Faucets
						Number	Volume (m ³)		
Can-avid	Obong WS	SP	1	432.0	250	1	9.0	15	3
	Pandol BWSA	SP	1	864.0	500	1	9.0	20	4
	Solong WS	SP	1	864.0	1,000	1	9.0	20	5
	Municipal Total	SP	13	7,948.8	6,950	11	99.0	210	61
	Aroganga BWSA	SP			150	2	30.0	20	30
Dolores	Brig. 3. Pob.	DW				1	12.0	200	15
	Brig. 8. Pob.	DW			20	1	4.5	10	8
	Osmeña BWSA	SP			5,000	4	59.7	120	45
	Tanauan	SP			100	1	9.0	20	9
	Municipal Total	DW/SP			5,270	9	115.2	370	107
General Macarthur	Aginaldo WS	SP			300	1	12.0		10
	Santa Cruz WS	SP			2,500	1	12.0		10
	Municipal Total	SP			2,800	2	24.0		20
	Biga	SP							3
	Cotcot	SP							3
Giporlos	Gigoso BWSA	SP							10
	Parina BWSA	SP				1	2.0		2
	Paya BWSA	SP							15
	Santa Cruz	SP							2
	Municipal Total	SP				1	2.0		35
Guiuan	Bitangan	SP							10
	Cagusu-an	SP							10
	Campoyong	DW			280				80
	Canawayon	SP							4

Table 4.1.2 Details on Existing Level II Systems (Cont'd.)

Sheet 1 of 6

Name of Municipality	Name of Operating Body	Water Source			Existing Facilities				
		Type	Number	Discharge (m ³ /day)	Length of Transmission Line (meter)	Reservoir		Length of Distribution Line (meter)	Number of Public Faucets
						Number	Volume (m ³)		
Guiuan	Casuguran	SP							10
	Culasi	SP							7
	Habag	SP							4
	Hamorawon	SP			1,000			500	25
	Inapulangan	SP							8
	San Jose WS	SP	1	259.2	120	1	10.9		7
	Suluan	SP							8
	Municipal Total	DW/SP	1	259.2	1,400	1	10.9	580	106
	San Miguel	SP	1	129.6	200	1	2.3	1,400	10
	Barangay 1	SW			21	1	2.0	300	11
Lawaan	Bolusao	SP					8.0		13
	Maslog	SP					12.0	2,000	16
	Taguete BWSA	SP					6.0	300	7
	Municipal Total	SP/SW	4		21	4	28.0	2,600	47
	Babanikon	DW		22.3					3
	Naubay BWSA	DW							7
	San Jose BWS	DW	1	600.0	500			400	3
Llorente	Waso BWSA	SP			100			100	3
	Municipal Total	DW/SP	1	622.3	600			500	16
	Brgy. 1-2	SP	1	1,200.0	3,000	1	50.0	2,000	12
	Bulawan	SP	1	600.0				500	3
	Carayacay	SP	1	480.0				300	2
Maslog	San Miguel	SP	1	600.0					4
	Municipal Total	SP	4	2,880.0	3,000	1	50.0	2,800	21

Table 4.1.2 Details on Existing Level II Systems (Cont'd.)
Sheet 1 of 6

Name of Municipality	Name of Operating Body	Water Source			Existing Facilities					
		Type	Number	Discharge (m ³ /day)	Length of Transmission Line (meter)	Reservoir Number	Reservoir Volume (m ³)	Length of Distribution Line (meter)	Number of Public Faucets	
Maydolong	Brgy. 1-7	SP	1			1	120.0	1,357	49	
	Carnada WS	SP			65	1	16.0	335	4	
	Campakirit WS	SP			2,700			56	3	
	Carloterio WS	SP			75	1	18.0	232	6	
	Del Pilar WS	SP			571			36	2	
	Guindalitan WS	SP			68	1	18.0	291	5	
	Lagap	SP			28	4	48.0	673	9	
	Omawas WS	SP			98	2	22.0	427	6	
	Patag WS	SP			57	1	12.0	61	2	
	San Gabriel WS	SP			142	1	18.0	162	4	
	Tagasian WS	SP			1,388			217	2	
	Municipal Total			1		5,192	12	272.0	3,847	92
	Brgy. 1, 2 & 3		DW							18
	Mercedes Oras	Cagdane WS	SP			300			150	4
		Dalid WS	DW	2		600				14
		Factoria WS	SP			900				2
		Iwayan WS	SP			24			1,000	5
Japay WS		SP			70	1	9.0	100	2	
Kalaw WS		SP			200	1	3.4	100	2	
Minap-os WS		SP			800			300	4	
Naga WS		SP			60	1	9.0	130	4	
San Eduardo WS		SP			1,500	1	27.0	400	8	
Saurong WS		SP			150	1	67.0		2	
Trinidad WS		SP			5	1	9.0	200	5	
Municipal Total		DW/SP	2		4,609	6	124.4	2,380	52	

Table 4.1.2 Details on Existing Level II Systems (Cont'd.)
Sheet 1 of 6

Name of Municipality	Name of Operating Body	Water Source			Existing Facilities				
		Type	Number	Discharge (m ³ /day)	Length of Transmission Line (meter)	Reservoir		Length of Distribution Line (meter)	Number of Public Faucets
						Number	Volume (m ³)		
Quinapondan	Brgy. 1-4 & 7 WS	SP	1	237.2	1,200	1	16.0	800	25
	Brgy. 6 BWSA	SP	1	130.8	300			25	2
	San Pedro BWSA	SP	1	572.4	1,850			550	13
	San Vicente BWSA	SP	1	510.3	1,200	1	49.0		6
	Santo Niño BWSA	SP	1		450	1	27.0	1,190	17
	Sta. Cruz BWSA	SP	1	507.0	600	1	4.0	400	9
	Sta. Margarita BWSA	SP	1	49.1	2,000	1	13.0	100	2
Municipal Total		SP	7	2,006.8	7,600	5	109.0	3,065	74
Salcedo	Abejao WS	SP	1	8.0	12	1	6.8	800	4
	Cagaut WS	SP	1	8.3	12	2	7.6	800	3
	Camanga	SP	1	8.3		1	7.6		3
	Iberan WS	SP	1	8.7	12	2	8.0	1,100	2
	Malbog WS	SP	1	9.5	24	1	8.7	1,296	3
	Municipal Total		SP	5	42.8	60	7	38.6	3,996
San Julian	Casoroy BWSA	SP	1	345.6	1,622	1	25.0		3
	Libas BWSA	SP	1	345.6	60	2	100.0		2
	Lunang BWSA	SP	1	198.7	200	1	1.0		6
	Nena BWSA	SP	1	216.0	1,805	2	40.0	1,500	14
	Purong BWSA	SP	1	129.6	902	1	6.0	304	3
	Municipal Total		SP	5	1,235.5	4,589	7	172.0	1,804
Sulat	Del Remedio	SP	1						3
	Kandalakit	SP	1						18
	San Juan	SP	1						3
	Santo Niño	SP	1						3
Municipal Total		SP	4						27

Table 4.1.2 Details on Existing Level II Systems (Cont'd.)
Sheet 1 of 6

Name of Municipality	Name of Operating Body	Water Source			Existing Facilities					
		Type	Number	Discharge (m ³ /day)	Length of Transmission Line (meter)	Reservoir		Length of Distribution Line (meter)	Number of Public Faucets	
						Number	Volume (m ³)			
Taft	Bati-awan WS	SP	1	5.5	36	1	8.0		3	
	Bongdo WS	SP	1	25.9	300	1	4.0	200	5	
	Burak WS	SP	1	10.9	100	1	8.0		2	
	Danao WS	SP	1	43.2	400	1	4.0	100	8	
	Mabuhay WS	SP	1	7.3	150	1	10.0	100	4	
	Naro WS	SP	1	14.5	1,500	1	8.0	400	8	
	San Pablo WS	SP	1	518.4	600	2	10.0	200	6	
	San Rafael WS	SP	1	5.5	2,200	2	10.0	200	4	
	Municipal Total		SP	8	631.2	5,286	10	62.0	1,200	40
	Provincial Total			64	17,562.7	58,077	79	1,141.9	25,842	867

Note: 1. Type of Water Source; *DW* - Deep Well, *DgW* - Dug Well, *Surf* - Surface Water (River), *SP* - Spring, and *IG* - Infiltration Gallery

Table 4.1.2 Details on Existing Level II Systems
Sheet 2 of 6

Name of Municipality	Name of Operating Body	Number of Barangay Served			Number of Households Served			Number of Population Served		
		Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Balangiga	Guinmaayohan	1	1	1	35	35	35	194	194	194
	Maybunga	1	1	1	10	10	10	55	55	55
	Santa Rosa	1	1	1	200	200	200	1,106	1,106	1,106
	Municipal Total	3	3	3	245	245	245	1,355	1,355	1,355
Borongan (Capital)	Benowangan	1	1	1	25	25	25	125	125	125
	Calico-an	1	1	1	30	30	30	150	150	150
	Calingtangan	1	1	1	15	15	15	75	75	75
	San Gabriel BWSA	1	1	1	80	80	80	400	400	400
	San Jose	1	1	1	15	15	15	75	75	75
	San Marco BWSA	1	1	1	40	40	40	200	200	200
	San Saturnino	1	1	1	15	15	15	75	75	75
	Siha	1	1	1	10	10	10	50	50	50
	Sobutan	1	1	1	15	15	15	75	75	75
	Municipal Total	9	9	9	245	245	245	1,225	1,225	1,225
Can-avid	Balagon WS	1	1	1	30	30	30	167	167	167
	Baruk WS	1	1	1	10	10	10	56	56	56
	Boco BWSA	1	1	1	20	20	20	111	111	111
	Cagahalong BWSA	1	1	1	20	20	20	111	111	111
	Camantag BWSA	1	1	1	50	50	50	278	278	278
	Can-ilay WS	1	1	1	35	35	35	195	195	195
	Guibuangan WS	1	1	1	20	20	20	111	111	111
	Jepaco BWSA	1	1	1	20	20	20	111	111	111
	Mabuhay WS	1	1	1	30	30	30	167	167	167
	Malogo WS	1	1	1	10	10	10	56	56	56
	Obong WS	1	1	1	15	15	15	83	83	83
	Pandol BWSA	1	1	1	20	20	20	111	111	111
	Solong WS	1	1	1	25	25	25	139	139	139
Municipal Total	13	13	13	305	305	305	1,696	1,696	1,696	

Table 4.1.2 Details on Existing Level II Systems (Cont'd.)
Sheet 2 of 6

Name of Municipality	Name of Operating Body	Number of Barangay Served			Number of Households Served			Number of Population Served		
		Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Dolores	Aroganga BWSA		1	1		150	150		846	846
	Brig. 3, Pob.	1		1	75		75	424		424
	Brig. 8, Pob.	1		1	40		40	226		226
	Osmeña BWSA		3	3		225	225		1,269	1,269
	Tanauan		1	1		45	45		254	254
	Municipal Total	2	5	7	115	420	535	650	2,369	3,019
General Macarthur	Aginaldo WS		1	1		50	50		282	282
	Santa Cruz WS		1	1		50	50		282	282
	Municipal Total		2	2		100	100		564	564
Giporlos	Biga		1	1		15	15		81	81
	Coticot		1	1		15	15		81	81
	Gigoso BWSA		1	1		50	50		269	269
	Parina BWSA		1	1		10	10		54	54
	Paya BWSA		1	1		75	75		404	404
	Santa Cruz		1	1		10	10		54	54
	Municipal Total		6	6		175	175		943	943
Guiuan	Bitangan		1	1		50	50		247	247
	Cagusu-an		1	1		50	50		247	247
	Campoyong		1	1		65	65		321	321
	Canawayon		1	1		20	20		99	99
	Casuguran		1	1		50	50		247	247
	Culasi		1	1		35	35		173	173
	Habag		1	1		20	20		99	99
	Hamorawon		1	1		125	125		618	618
	Inapulangan		1	1		40	40		198	198
	San Jose WS		1	1		35	35		173	173
Suluan		1	1		40	40		198	198	
	Municipal Total		11	11		530	530		2,620	2,620

Table 4.1.2 Details on Existing Level II Systems (Cont'd.)
Sheet 2 of 6

Name of Municipality	Name of Operating Body	Number of Barangay Served			Number of Households Served			Number of Population Served		
		Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Hernani	San Miguel		1	1		50	50		304	304
	Barangay 1	1		1	55		55	342		342
Lawaan	Bolusao		1	1		65	65		365	365
	Maslog		1	1		80	80		449	449
Llorente	Taguete BWSA		1	1		35	35		196	196
	Municipal Total	1	3	4	55	180	235	342	1,010	1,352
Maslog	Babamikon		1	1		15	15		73	73
	Naubay BWSA		1	1		35	35		170	170
Maslog	San Jose BWS		1	1		15	15		73	73
	Waso BWSA		1	1		15	15		73	73
Maslog	Municipal Total		4	4		80	80		389	389
	Brgy. 1-2	2		2	60		60	337		337
Maslog	Bulawan		1	1		15	15		77	77
	Carayacay		1	1		10	10		51	51
Maslog	San Miguel		1	1		20	20		103	103
	Municipal Total	2	3	5	60	45	105	337	231	568
Maydolong	Brgy. 1-7	7		7	190	55	245	1,355		1,355
	Camada WS		1	1		20	20		122	122
Maydolong	Campakurit WS		1	1		15	15		91	91
	Canloroto WS		1	1		30	30		183	183
Maydolong	Del Pilar WS		1	1		10	10		61	61
	Guinalitan WS		1	1		25	25		152	152
Maydolong	Lagap		1	1		45	45		274	274
	Omawas WS		1	1		30	30		183	183
Maydolong	Patag WS		1	1		10	10		61	61
	San Gabriel WS		1	1		20	20		122	122
Maydolong	Tagasian WS		1	1		10	10		61	61
	Municipal Total	7	10	17	190	270	460	1,355	1,310	2,665

Table 4.1.2 Details on Existing Level II Systems (Cont'd.)
Sheet 2 of 6

Name of Municipality	Name of Operating Body	Number of Barangay Served			Number of Households Served			Number of Population Served			
		Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	
Mercedes	Brgy. 1, 2 & 3										
	Cagdine WS		1	1		20	20		110	110	
	Dalid WS		1	1		70	70		386	386	
	Factoria WS		1	1		10	10		55	55	
	Iwayan WS		1	1		25	25		138	138	
	Japay WS		1	1		10	10		55	55	
	Kalaw WS		1	1		10	10		55	55	
	Minap-os WS		1	1		20	20		110	110	
	Naga WS		1	1		20	20		110	110	
	San Eduardo WS		1	1		40	40		220	220	
	Saurong WS		1	1		10	10		55	55	
	Trinidad WS		1	1		25	25		138	138	
	Municipal Total		11	11		260	260		1,432	1,432	
	Quinapondan	Brgy. 1-4 & 7 WS	5		5	125		125	886		886
Brgy. 6 BWSA		1		1	10		10	71		71	
San Pedro BWSA			1	1		65	65	385		385	
San Vicente BWSA			1	1		30	30	178		178	
Santo Niño BWSA			1	1		85	85	503		503	
Sta. Cruz BWSA			1	1		45	45	266		266	
Sta. Margarita BWSA			1	1		10	10	59		59	
Municipal Total		6	5	11	135	235	370	957	1,391	2,348	
Salcedo		Abejao WS		1	1		20	20	98		98
		Cagaut WS		1	1		15	15	73		73
		Camanga		1	1		15	15	73		73
		Iberan WS		1	1		10	10	49		49
		Malbog WS		1	1		15	15	73		73
		Municipal Total		5	5		75	75	366		366

Table 4.1.2 Details on Existing Level II Systems (Cont'd.)
Sheet 2 of 6

Name of Municipality	Name of Operating Body	Number of Barangay Served			Number of Households Served			Number of Population Served		
		Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
San Julian	Casoroy BWSA		1	1		15	15		74	74
	Libas BWSA		1	1		10	10		50	50
	Lunang BWSA		1	1		30	30		149	149
	Nena BWSA		1	1		70	70		347	347
	Putong BWSA		1	1		15	15		74	74
	Municipal Total		5	5		140	140		694	694
Sulat	Del Remedio		1	1		15	15		78	78
	Kandalakit		4	4		90	90		469	469
	San Juan		1	1		15	15		78	78
	Santo Niño		1	1		15	15		78	78
	Municipal Total		7	7		135	135		703	703
Taft	Bati-awan WS		1	1		15	15		85	85
	Bongdo WS		1	1		25	25		142	142
	Burak WS		1	1		10	10		57	57
	Danao WS		1	1		40	40		227	227
	Mabuhay WS		1	1		20	20		114	114
	Nato WS		1	1		40	40		227	227
	San Pablo WS		1	1		30	30		170	170
	San Rafael WS		1	1		20	20		114	114
Municipal Total		8	8		200	200		1,136	1,136	
Provincial Total		18	111	129	555	3,690	4,245	3,641	19,738	23,379

Table 4.1.2 Details on Existing Level II Systems
Sheet 3 of 6

Name of Municipality	Name of Operating Body	Service Conditions During Dry Season							Supply Water Pressure (% of total)	
		Supply (Hrs/day)	Dirty Water ¹	Taste or Smell ²	Power Failure	Pump Breakdown	Pipe Burst	Others	Adequate	Inadequate
Balangiga	Guinmaayohan	24								
	Maybunga	24								
	Santa Rosa	24								
	Benowangan	24								
	Calico-an	24								
	Calingangan	24								
	San Gabriel BWSA	24								
	San Jose	24								
	San Mateo BWSA	24								
	San Saturnino	24								
Can-avid	Siha	24								
	Sohutan	24								
	Balagon WS	24								
	Baruk WS	24								
	Boco BWSA	24								
	Cagahalang BWSA	24								
	Camantang BWSA	12								
	Can-ilay WS	24								
	Guibuangan WS	24								
	Jepaco BWSA	24								
	Mabuhay WS	24								
	Malogo WS	24								
	Obong WS	24								
	Pandol BWSA	24								
	Solong WS	24								

Table 4.1.2 Details on Existing Level II Systems (Cont'd.)
Sheet 3 of 6

Name of Municipality	Name of Operating Body	Supply (Hrs/day)	Dirty Water ¹	Taste or Smell ²	Service Conditions During Dry Season					Supply Water Pressure (% of total)		
					Power Failure	Pump Breakdown	Pipe Burst	Others	Adequate	Inadequate		
Dolores	Aroganga BWSA	24										
	Brgy. 3, Pob.	4										
	Brgy. 8, Pob.	24										
	Osmeña BWSA	24										
	Tanauan	24										
General Macarthur	Aguinaldo WS	24										
	Santa Cruz WS	24										
Giporlos	Biga	24										
	Coticot	24										
	Gigoso BWSA	24										
	Parina BWSA	24										
	Paya BWSA	24										
	Santa Cruz	24										
Guiuan	Bitangan	24										
	Cagusu-an	24										
	Campoyong	24										
	Canawayon	24										
	Casuguran	24										
	Culasi	24										
	Habag											
	Hamorawon	24										
	Inapulangan	24										
	San Jose WS	24										
Himani	Suluan	24										
	San Miguel	24										

Table 4.1.2 Details on Existing Level II Systems (Cont'd.)
Sheet 3 of 6

Name of Municipality	Name of Operating Body	Supply (Hrs/day)	Dirty Water ¹	Taste or Smell ²	Service Conditions During Dry Season				Supply Water Pressure (% of total)		
					Supply Interruption (number/month)				Adequate	Inadequate	
					Power Failure	Pump Breakdown	Pipe Burst	Others			
Lawaan	Barangay 1	1									
	Bolusao	24									
	Maslog	24									
	Taguete BWSA	24									
	Babankon	12									
	Naubay BWSA	12									
	San Jose BWS	24									
	Waso BWSA	24									
	Brgy. 1-2	24									
	Bulawan	24									
Maslog	Carayacay	24									
	San Miguel	24									
	Brgy. 1-7	24									
	Camada WS	24									
	Campakrit WS	24									
	Canlorio WS	24									
	Del Pilar WS	24									
	Guindalitan WS	24									
	Lagap	24									
	Omawas WS	24									
Maydolong	Patag WS	24									
	San Gabriel WS	24									
	Tagashian WS	24									
	Brgy. 1, 2 & 3	8									
	Cagdinc WS										
	Dalid WS										
	Factoria WS										
	Mercedes										
		Oras									

Table 4.1.2 Details on Existing Level II Systems (Cont'd.)
Sheet 3 of 6

Name of Municipality	Name of Operating Body	Service Conditions During Dry Season							Supply Water Pressure (% of total)		
		Supply (Hrs/day)	Dirty Water ¹	Taste or Smell ²	Power Failure	Pump Breakdown	Pipe Burst	Others	Adequate	Inadequate	
Oras	Ivayan WS										
	Japay WS										
	Kalaw WS										
	Minap-os WS										
	Naga WS										
	San Eduardo WS										
	Saurong WS										
	Trinidad WS										
	Brgy. 1-4 & 7 WS	12									
	Brgy. 6 BWSA	24									
Quinapondan	San Pedro BWSA	24									
	San Vicente BWSA	24									
	Santo Niño BWSA	24									
	Sta. Cruz BWSA	24									
	Sta. Margarita BWSA	12									
	Abejao WS										
	Cagaur WS										
	Camanga										
Salcedo	Iberan WS										
	Malbog WS										
	Casoroy BWSA	24									
	Libas BWSA	24									
	Lunang BWSA	24									
	Nena BWSA	24									
	Purong BWSA	24									
San Julian											

Table 4.1.2 Details on Existing Level II Systems (Cont'd.)
Sheet 3 of 6

Name of Municipality	Name of Operating Body	Supply (Hrs/day)	Dirty Water	Taste or Smell ²	Service Conditions During Dry Season						Supply Water Pressure (% of total)		
					Power Failure	Pump Breakdown	Pipe Burst	Others	Adequate	Inadequate			
Sulat	Del Remedio	24											
	Kandalakit	8											
	San Juan	24											
	Santo Niño	12											
	Bati-awan WS	24											
	Bongdo WS	16											
	Burak WS	24											
	Danao WS	24											
Taft	Mabuhay WS	24											
	Nato WS	24											
	San Pablo WS	12											
	San Rafael WS	24											

1. Dirty Water: E - Everyday, OW - Once a week, OM - Once a month, O - Occasional.
Note: 2. Taste or Smell: G - Good taste, S - Salty, W - Wood taste, M - Metallic taste, O - Others.

Table 4.1.2 Details on Existing Level II Systems
Sheet 4 of 6

Name of Municipality	Name of Operating Body	Number of Staff					Repair Work		
		Technical Staff	Administrative Staff	Collector	Total Number of Staff	Local Trademan	MEO/CEO	DEO	Others
Balangiga	Guinmaayohan						✓		Brgy. Off.
	Maybunga						✓		Brgy. Off.
	Santa Rosa						✓		Brgy. Off.
Borongon (Capital)	Benowangan								Brgy. Off.
	Calico-an								
	Calingangan								
	San Gabriel BWSA		5	1	6				BWSA
	San Jose								Brgy. Off.
	San Mateo BWSA								
	San Saturnino								
	Siha								
	Sohutan								
	Balagon WS		3	3	6				
Can-avid	Baruk WS								
	Boco BWSA								
	Cagahalong BWSA								
	Camantaug BWSA								
	Can-ilay WS								
	Guibuangan WS								
	Jepaco BWSA								
	Mabuhay WS								
	Malogo WS								
	Obong WS								
Pandol BWSA									
Solong WS									

Table 4.1.2 Details on Existing Level II Systems (Cont'd.)
Sheet 4 of 6

Name of Municipality	Name of Operating Body	Number of Staff					Repair Work		
		Technical Staff	Administrative Staff	Collector	Total Number of Staff	Local Trademan	MEO/CEO	DEO	Others
Dolores	Aroganga BWSA	1	2	1	4	✓			
	Brgy. 3, Pob.	1	1	1	3				
	Brgy. 8, Pob.	1	1	1	3	✓			
	Osmena BWSA	4	4	4	12	✓			
	Tanauan	1	1	1	3	✓			
General Macarthur	Aguinaldo WS					✓			
	Santa Cruz WS					✓			
Giporlos	Biga								Brgy. Off.
	Coticot								Brgy. Off.
	Gigoso BWSA								Brgy. Off.
	Parina BWSA								Brgy. Off.
	Paya BWSA								Brgy. Off.
	Santa Cruz								Brgy. Off.
Guiuan	Bitangan								
	Cagusu-an								
	Campoyong			13	13	✓			
	Canawayon					✓			
	Casuguran								
	Culasi								
	Habag					✓			
	Hamorawon					✓			
	Inapulangan					✓			
	San Jose WS					✓			
	Suluan					✓			
	San Miguel		5	1	6	✓			

Table 4.1.2 Details on Existing Level II Systems (Cont'd.)

Sheet 4 of 6

Name of Municipality	Name of Operating Body	Technical Staff	Administrative Staff	Collector	Total Number of Staff	Number of Staff			
						Local Trademan	MBO/CEO	DEO	Others
Lawaan	Barangay 1								
	Bolusao								
	Maslog								
	Taguite BWSA								
Llorente	Babanikon								
	Naubay BWSA	2			2	✓			
	San Jose BWS								
	Waso BWSA								Brgy. Off.
Maslog	Brgy. 1-2					✓			
	Bulawan					✓			
	Carayacay					✓			
	San Miguel					✓			
Maydolong	Brgy. 1-7	7	2	5	14	✓		✓	
	Camada WS					✓			
	Campakirit WS					✓			
	Carlotoño WS					✓			
	Del Pilar WS					✓			
	Guindalitan WS					✓			
	Laggap					✓			
	Omawas WS					✓			
	Patag WS					✓			
	San Gabriel WS					✓			
Mercedes	Tagaslian WS					✓			
	Brgy. 1, 2 & 3	1	1		2	✓			

Table 4.1.2 Details on Existing Level II Systems (Cont'd.)
Sheet 4 of 6

Name of Municipality	Name of Operating Body	Technical Staff	Administrative Staff	Collector	Total Number of Staff	Number of Staff			Others
						Local Tradesman	MEO/CEO	DEO	
Oras	Cagdine WS					✓			
	Dalid WS								
	Factoria WS								
	Iwayan WS								
	Japay WS								
	Kalaw WS								
	Minap-os WS								
	Naga WS								
	San Eduardo WS								
	Saurong WS								
	Trinidad WS								
	Brgy. 1-4 & 7 WS						✓	✓	
	Brgy. 6 BWSA						✓	✓	
	San Pedro BWSA						✓	✓	
San Vicente BWSA						✓	✓		
Santo Niño BWSA						✓	✓		
Sta. Cruz BWSA						✓	✓		
Sta. Margarita BWSA						✓	✓		
Salcedo	Abejao WS					✓			
	Cagaut WS					✓			
	Camanga					✓			
	Iberan WS					✓			
	Malbog WS					✓			

Table 4.1.2 Details on Existing Level II Systems (Cont'd.)

Sheet 4 of 6

Name of Municipality	Name of Operating Body	Number of Staff						Repair Work				
		Technical Staff	Administrative Staff	Collector	Total Number of Staff	Local Trademan	MEO/CEO	DEO	Others			
San Julian	Casroy BWSA					✓						
	Libas BWSA					✓						
	Lunang BWSA					✓						
	Nena BWSA					✓						
	Putong BWSA					✓						BWSA
Sulat	Del Remedio					✓						
	Kandalakit					✓						
	San Juan					✓						
	Santo Niño					✓				✓		
	Bati-awan WS									✓		
Taft	Bongdo WS					✓						
	Burak WS											
	Danao WS									✓		
	Mabuhay WS									✓		
	Nato WS									✓		
	San Pablo WS									✓		
San Rafael WS									✓			

Table 4.1.2 Details on Existing Level II Systems
Sheet 5 of 6

Name of Municipality	Name of Operating Body	Expenditures							Tariff				Average Collection Efficiency (%)		
		Annual	Wages	Fuel, Chem. (P 000.00 / year)	Transport	Repairs	Loan Repayment	Other	Consumer Payment (Year)	Cost per Pail	Cost per Cu. (Pesos)	Cost per HH		Other	
Balangiga	Guimasyohan														
	Maybunga														
	Santa Rosa														
	Benowangan														
	Calico-an														
	Calingtangan														
	San Gabriel BWSA					0.742									5
	San Jose														
	San Mateo BWSA														
	San Saturnino														
Can-avid	Siha														
	Sohutan														
	Balagon WS	5													
	Baruk WS	1													
	Boco BWSA														
	Cagahalong BWSA														
	Camanga BWSA														
	Can-lilay WS														
	Guibuangan WS														
	Jepaco BWSA														
Dolores	Mabuhay WS														
	Malogo WS														
	Obong WS														
	Pandol BWSA														
	Solong WS														
	Aroganga BWSA	0.1													5/PF
	Bigy. 3, Pob.	0.6													100
	Bigy. 8, Pob.	1.1													100
	Osmeña BWSA	0.5													5/PF
	Tanauan	0.54													5/PF
General Macarthur	Aguinaldo WS														
	Santa Cruz WS														
Ciponios	Biga														
	Coticot														
	Gigoso BWSA														
	Parina BWSA														
	Paya BWSA														
	Santa Cruz														

Table 4.1.2 Details on Existing Level II Systems (Cont'd.)
Sheet 5 of 6

Name of Municipality	Name of Operating Body	Expenditures								Tariff				Average Collection Efficiency (%)					
		Annual	Wages	Fuel, Chem. Mat'l.	Transport	Repairs	Loan Repayment	Other	Consumer Payment	Cost per Fail	Cost per Cu. Meter	Cost per HH	Other						
		(P '000.00 / year)								(Pesos)									
Guiuan	Bitanjan	0.3																	
	Cagusu-an																		
	Campoyong					1.04													
	Canawayon																		
	Casuguran																		
	Culasi																		
	Habag																		
	Hamawon																		
	Inapulangan																		
	San Jose WS		0.15																
Suluan																			
Hemani	San Miguel	3.5						2.5											
Lawaan	Barangay I																		
	Boluszo																		
Lorente	Maslog																		
	Tagulte BWSA		2																
	Babamikon																		
	Naubay BWSA																		
	San Jose BWS																		
	Waso BWSA																		
Maslog	Brgy. 1-2	26.8	16.8					10											
	Bulawan																		
Maydolong	Carsyacay																		
	San Miguel																		
	Brgy. 1-7	66	26					15											90
	Camada WS																		
	Campakirt WS																		
	Canlereno WS																		
	Del Pilar WS																		
Guindalitan WS																			
Mercedes Oras	Lagsap																		
	Oimawas WS																		
	Patag WS																		
	San Gabriel WS																		
	Tagasian WS																		
	Brgy. 1, 2 & 3																		
	Cagdine WS						5												
	Dalid WS																		
	Factoria WS																		
																			20

Table 4.1.2 Details on Existing Level II Systems (Cont'd.)
Sheet 5 of 6

Name of Municipality	Name of Operating Body	Expenditures (P 000.00 / year)					Tariff (Pesos)					Average Collection Efficiency (%)							
		Annual	Wages	Fuel, Chem. Mat'l.	Transport	Repairs	Loan Repayment	Other	Consumer Payment	Cost per Pall	Cost per Cu. Meter		Cost per HH	Other					
Oras	Iwavan WS																		
	Iapay WS																		
	Kalaw WS																		
	Minap-os WS																		
	Naga WS																		
	San Eduardo WS																		
	Saurong WS																		
	Trinidad WS																		
	Brgy. 1-4 & 7 WS		60			20													
	Brgy. 6 BWSA																		
Quinapondan	San Pedro BWSA																		
	San Vicente BWSA																		
	Santo Niño BWSA																		5
	Sra. Cruz BWSA																		
	Sra. Margarita BWSA																		
	Abejao WS																		
	Cagsut WS																		
	Camanga																		
	Iberan WS																		
	Malbog WS																		
San Julian	Casoroy BWSA	5																	
	Libas BWSA																		
	Lunang BWSA																		
	Nena BWSA	5																	
	Putong BWSA																		
Sulat	Del Remedio																		
	Kandalakit																		
	San Juan																		
	Santo Niño																		
	Bat-awan WS																		
Taft	Bongdo WS																		
	Burak WS																		
	Danao WS																		
	Mabuhay WS																		
	Nato WS																		
	San Pablo WS																		
	San Rafael WS																		

Table 4.1.2 Details on Existing Level II Systems
Sheet 6 of 6

Name of Municipality	Name of Operating Body	Annual Billing (Number)	Billings			Revenues						
			Public Faucet Consume	House Connection Consumers	Expected Subsidies	Others	Annual Income (P '000.00 / year)	Payment by Public Faucet Consumers	Payment by House Connection	Subsidies	Other	
Balangiga	Guinmaayohan											
	Maybunga											
	Santa Rosa											
	Benowangan											
	Calico-an											
	Calingatagan											
	San Gabriel BWSA		0.969	0.25		2		0.969	0.06			
	San Jose											
	San Mateo BWSA											
	San Saturnino											
Can-avid	Siha											
	Solutan											
	Balagon WS											
	Baruk WS											
	Boco BWSA											
	Cagahalong BWSA											
	Canantaug BWSA											
	Can-ilay WS											
	Guibuangan WS											
	Jepaco BWSA											
Dolores	Mabuhay WS											
	Malogo WS											
	Obong WS											
	Pandol BWSA											
	Solong WS											
	Aroganga BWSA		0.9					0.9	0.9			
	Brgy. 3. Pob.			18				18			18	
	Brgy. 8. Pob.							9.6			9.6	
	Osmeña BWSA							2.7			2.7	
	Tanauan		0.54					0.54	0.54			

Table 4.1.2 Details on Existing Level II Systems (Cont'd.)
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Name of Municipality	Name of Operating Body	Billings				Revenues					
		Annual Billing (Number)	Public Faucet Consumers	House Connection Consumers	Expected Subsidies	Others	Annual Income (P '000.00 / year)	Payment by Public Faucet Consumers	Payment by House Connection	Subsidies	Other
General Macarthur	Aguinaldo WS										
	Santa Cruz WS										
Giporlos	Biga										
	Coticot										
	Gigoso BWSA										
	Parina BWSA										
	Paya BWSA										
	Santa Cruz										
Guiuan	Bitangan										
	Cagusu-an										
	Campoyong								10		
	Canawayon										
	Casuguran										
	Culasi										
	Habag										
	Hamorawon										
	Inapulangan										
	San Jose WS										
Hernani Lawaan	Suluan										
	San Miguel										
	Barangay I										
	Bolusao										
	Maslog										
	Taguete BWSA										
Llorente	Babankon										
	Naubay BWSA										
	San Jose BWS										
	Waso BWSA										

Table 4.1.2 Details on Existing Level II Systems (Cont'd.)
Sheet 6 of 6

Name of Municipality	Name of Operating Body	Billings				Revenues					
		Annual Billing (Number)	Public Faucet Consumers	House Connection Consumers	Expected Subsidies	Others	Annual Income (P '000.00 / year)	Payment by Public Faucet Consumers	Payment by House Connection	Subsidies	Other
Maslog	Brgy. 1-2										
	Bulawan										
	Carayacay										
	San Miguel										
	Brgy. 1-7			597			490.6		597		
	Carnada WS										
	Campakirit WS										
	Canlorero WS										
	Del Pilar WS										
	Guindaitan WS										
Maydolong	Lagap										
	Omayas WS										
	Panag WS										
	San Gabriel WS										
	Tagashan WS										
	Brgy. 1, 2 & 3										
	Cagdine WS										
	Dalid WS										
	Factoria WS										
	Iwayan WS										
Mercedes	Japay WS										
	Kalaw WS										
	Mimap-os WS										
	Naga WS										
	San Eduardo WS										
	Saurong WS										
	Trinidad WS										
	Brgy. 1-4 & 7 WS										
	Brgy. 6 BWSA										
	San Pedro BWSA										
Oras											
Quinapondan											

Table 4.1.2 Details on Existing Level II Systems (Cont'd.)
Sheet 6 of 6

Name of Municipality	Name of Operating Body	Billings				Revenues					
		Annual Billing (Number)	Public Faucet Consumers	House Connection Consumers	Expected Subsidies	Others	Annual Income (P '000.00 / year)	Payment by Public Faucet Consumers	Payment by House Connection	Subsidies	Other
Quinapondan	San Vicente BWSA										
	Santo Niño BWSA										
	Sta. Cruz BWSA										
	Sta. Margarita BWSA										
Salcedo	Abejao WS										
	Cagaur WS										
	Camanga										
	Iberan WS										
San Julian	Malbog WS										
	Casoro BWSA										
	Libas BWSA										
	Lunang BWSA										
	Nena BWSA										
	Purong BWSA										
Sulat	Del Remedio										
	Kandalakit										
	San Juan										
	Santo Niño										
Taft	Bati-awan WS										
	Bongdo WS										
	Burak WS										
	Danao WS										
	Mabuhay WS										
	Nato WS										
	San Pablo WS										
	San Rafael WS										