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 – [6]

SUPPORTING REPORT

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

SOUTHERN LEYTE

DECEMBER 1999

NIPPON KOEI CO., LTD.

JAPAN INTERNATIONAL COOPERATION AGENCY

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

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PROVINCIAL WATER SUPPLY, SEWERAGE AND SANITATION SECTOR PLAN

VOLUME II SUPPORTING REPORT

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ON

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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, JANUARY 26, 1998

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

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

1st BATCH	2nd BATCH	3rd BATCH	4th 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 Occidental
		6. Western Samar	

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:

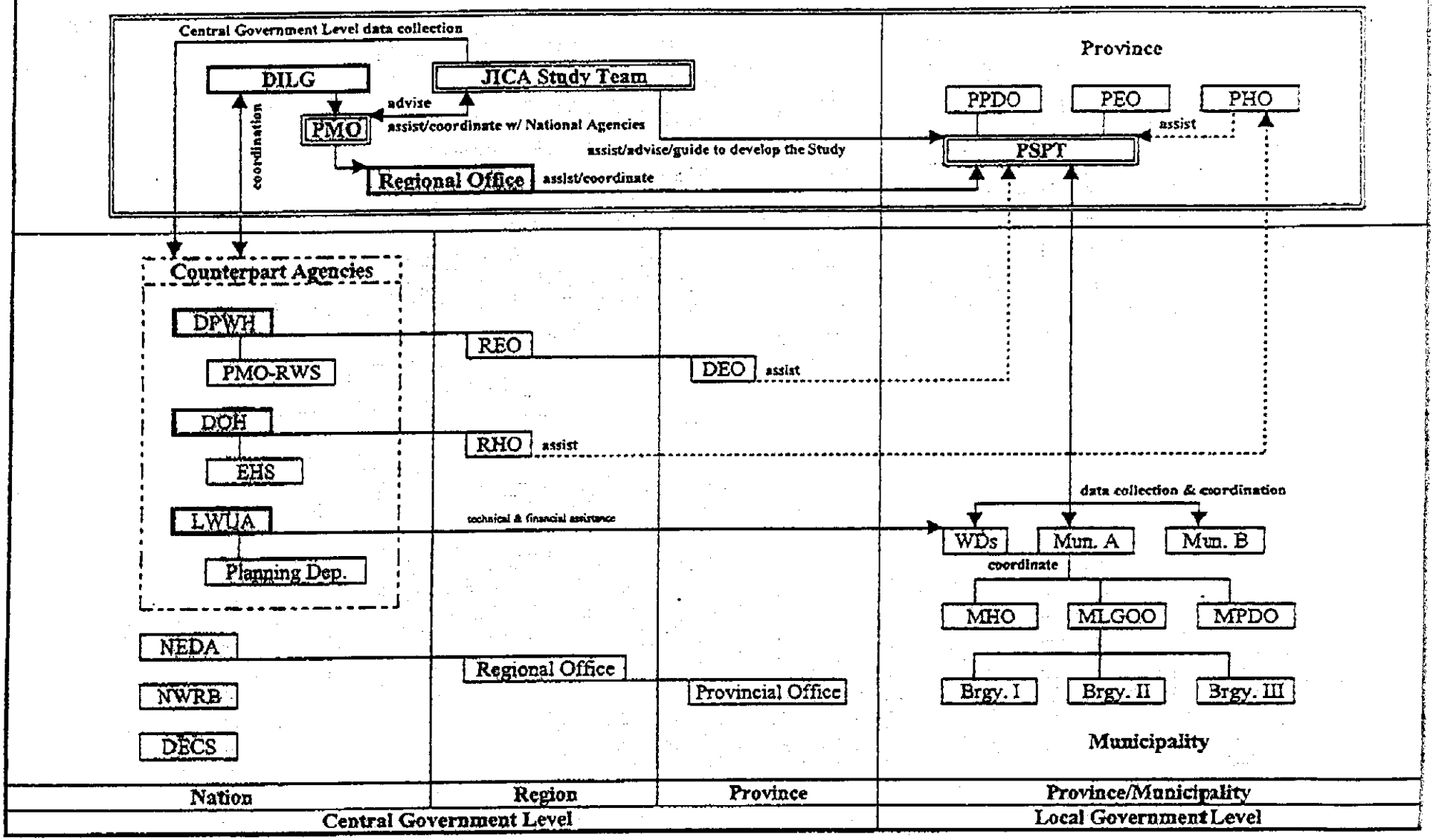
(1) Pursue technology transfer to the Philippine counterpart personnel in the course of the Study and;

(2) Assist PSPTs in the preparation of the PW4SP.

LIST OF ATTENDEES IN THE SERIES OF DISCUSSIONS

ATTENDEES	DESIGNATION
A. DILG	
1. Mr. Normando J. Toledo	Director, Office of Project Development Services
2. Mr. Orville M. Roque	Program Manager, WSS-PMO
3. Ms. Ellen I. Pascua	Asst. Program Manager, WSS-PMO
4. Mr. Rogelio B. Ocampo	Chief, Planning Division, WSS-PMO
5. Ms. Fe Crisilla M. Banluta	PW4SP Project Officer, WSS-PMO
B. Other Agencies	
1. Mr. Sam Siao	Officer, PMO-RWS, DPWH
2. Dr. Mario Villaverde	Director, EHS, DOH
C. JICA Advisory Committee	
1. Ms. Keiko Yamamoto	Chairman, Advisory Committee
2. Mr. Keiichi Kanaya	Member, Advisory Committee
D. JICA Headquarters	
1. Mr. Shigeyuki Matsumoto	Second Development Study Division, Social Development Study Dept.
E. JICA Study Team	
1. Mr. Masatoshi Momose	Team Leader/Water Supply Planning
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

ON

THE PROGRESS 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, 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:

Province	Component City
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

Appendix A

LIST OF ATTENDEES IN THE SERIES OF DISCUSSION

ATTENDEES	DESIGNATION
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 worshop 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

	ATTENDEES	DESIGNATION
A.	*DILG*	
	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
B.	*Other Agencies*	
	1. Ms. Cristina Santiago	PIS, NEDA
C.	*JICA Advisory Committee*	
	1. Ms. Keiko Yamamoto	Chairman, Advisory Committee
	2. Mr. Keiichi Kanaya	Member, Advisory Committee
D.	*JICA Headquarters*	
	1. Ms. Akiko Hayashi	Second Development Study Division, Social Development Study Depart.
E.	*JICA Study Team*	
	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. Versola	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

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

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.

Appendix A

LIST OF ATTENDEES IN THE SERIES OF DISCUSSIONS

		ATTENDEES	DESIGNATION
A.		*DILG*	
	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
B.		*Other Agencies*	
	1.	Ms. Christina Santiago	PIS, NEDA
C.		*JICA Advisory Committee*	
	1.	Ms. Keiko Yamamoto	Chairman, Advisory Committee
	2.	Mr. Keiichi Kanaya	Member, Advisory Committee
D.		*JICA Study Team*	
	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 spreedsheet, 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 spreedsheet 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		
	UrbanWater 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		
	UrbanWater 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/Percenatges 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				
		Deep Well				
		Spring		▨	▨	▨
	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				
		Deep Well				
		Spring		▨	▨	▨
	Urban	Shallow Well				
		Deep Well				
		Spring		▨	▨	▨
	Rural	Shallow Well				
		Deep Well				
		Spring		▨	▨	▨
	Urban	Shallow Well				
		Deep Well				
		Spring		▨	▨	▨
	Rural	Shallow Well				
		Deep Well				
		Spring		▨	▨	▨

Table 2.6.3 Annual Investment

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						
	Detail Design						
	Construction & Supervision						
	Community Development & Training						
Sanitation	Urban Household Toilet						
	Rural Household Toilet						
	Public School Toilet						
	Public Toilet						
	Disinfection of Level I Wells						
	Detail Design						
	Construction & Supervision						
	Community Development & Training						

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					
Level III - New System					
For 5000 Population					
For 10000 Population					
For 15000 Population					
Level III - Expansion					
For 5000 Population					
For 10000 Population					
For 15000 Population					
Level II					
Level I					
Deep Well - 40 meter depth					
Deep Well - 80 meter depth					
Deep Well - 120 meter depth					
Shallow Well - 18 meter depth					
Spring Development					
Rehabilitation Cost for Level I Deep Well					
Disinfection of Level I Wells					
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	Southern Leyte				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	10,329	13	154,332	14,941	87,207	13,748
15,000 - 19,999	13,713	17	310,573	22,647	85,948	22,862
20,000 - 29,999	25,016	31	704,884	28,178	180,372	30,065
30,000 - 39,999	12,983	16	528,291	40,690	137,133	42,930
40,000 - 59,999	12,718	16	757,060	59,527	120,101	62,345
60,000 - 99,999	4,932	6	549,368	111,384	58,068	112,836
100,000 - 249,999	1,261	2	679,086	538,700	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 ₱37,053 (₱ 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, 1994

Major Industry Group	Household Population 15 years and Over Who Worked	Class of Worker							
		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	Not Reported
Agriculture, Hunting and Forestry	52,208	872	11,966	167	26,454	5,905	266	6,228	350
Fishing	7,166	45	900	3	5,290	311	18	412	187
Mining and Quarrying	203	4	56	0	112	10	0	9	12
Manufacturing	2,556	61	1,114	25	1,047	129	13	101	66
Electricity, Gas and Water	277	14	180	22	50	2	1	0	8
Construction	2,807	305	1,922	85	405	20	4	21	45
Trade	7,470	62	1,358	21	4,402	733	14	793	87
Services	26,422	4,550	7,327	10,371	3,020	293	16	547	299
Not Stated	787	26	250	34	239	27	2	78	131
Provincial Total	99,896	5,939	25,073	10,728	41,019	7,430	334	8,189	1,185

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	20,077	12,895	365	359	365	6,093
Pre-school	11,547	11,129	36	37	23	322
Elementary						
1st - 4th Grade	74,170	40,482	2,129	2,462	2,440	26,657
5th - 7th Grade	69,867	19,968	3,975	5,261	5,471	35,192
High School						
Undergraduate	43,349	21,154	3,936	3,624	3,299	11,336
Graduate	22,836	3,735	3,983	3,620	3,263	8,235
Post Secondary						
Undergraduate	605	108	152	115	74	156
Graduate	2,635	155	619	611	433	817
College Undergraduate	11,828	2,251	2,705	1,660	1,466	3,746
Academic Degree Holder	14,129	87	1,580	2,423	2,456	7,583
Post-Baccalaureate	326	0	19	34	34	239
Not Stated	4,048	2,615	199	144	142	948
Total	275,417	114,579	19,698	20,350	19,466	101,324

Source: 1995 NSO Socioeconomic and Demographic Characteristics

3.4 Population

3.4.1 Classification of Urban and Rural Area

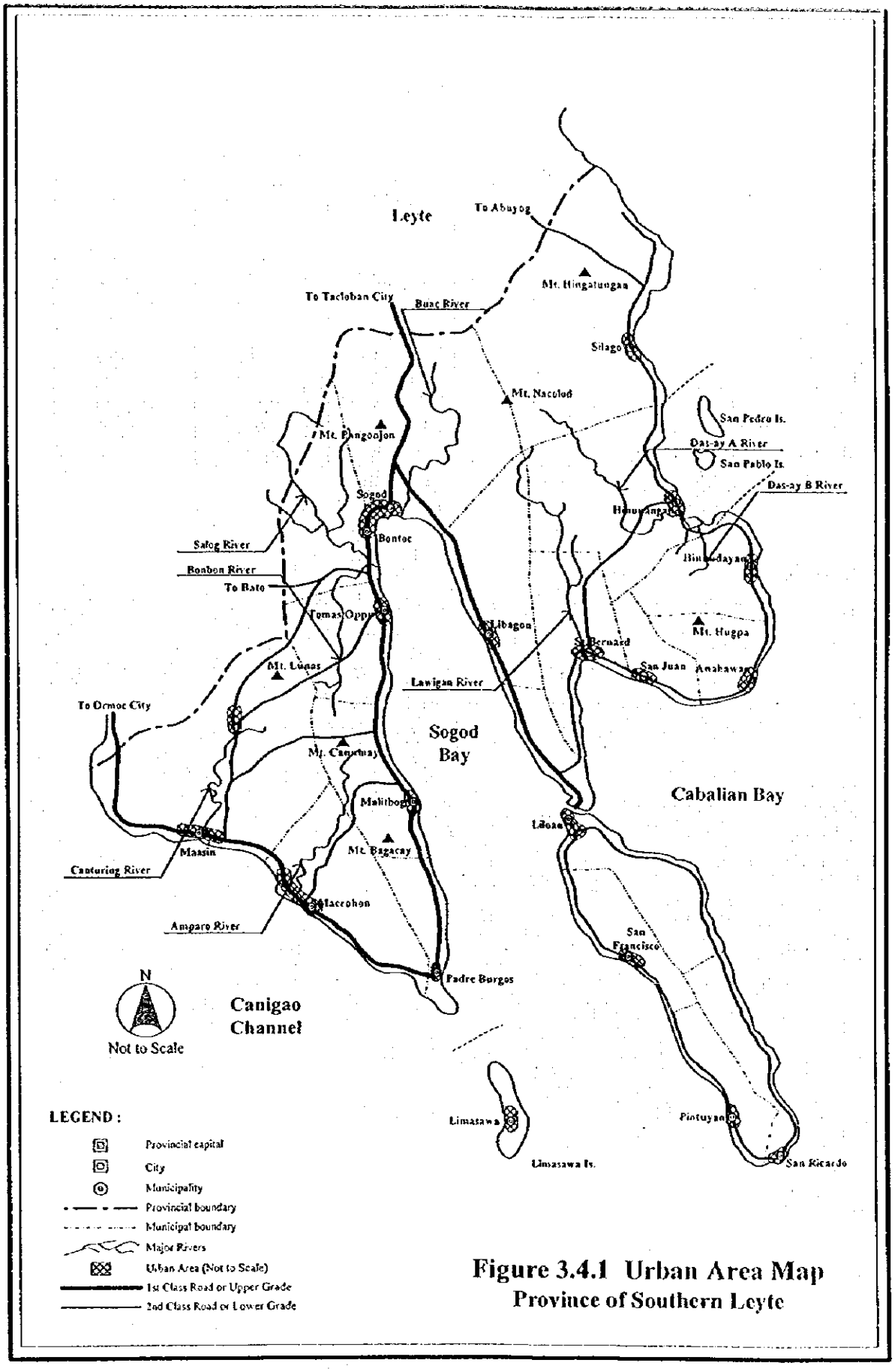


Figure 3.4.1 Urban Area Map
Province of Southern Leyte

3.5 Health Status

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

Health Facilities and Practitioners	Southern Leyte		Philippines	
	Number	Ratio	Number	Ratio
Health Facilities				
Hospital	14	1/26,340	1,700	1/40,206
Rural Health Units	20	1/15,804	2,335	1/29,272
Barangay Health Station	85	1/3,719	11,646	1/5,869
Practitioners				
Doctors	87	1/3,633	6,913	1/9,887
Nurses	173	1/1,827	8,849	1/7,724
Midwives	220	1/1,437	10,831	1/6,311
Dentists	29	1/10,899	1,895	1/36,068
Others Medical Practitioner	69	1/4,581		

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	8
Open Channel (with Concrete & rubble masonry)	15
Open Ditches & Unlined Laterals	26
Reinforced Concrete Circular Pipes	2
Street Gutters	9
Outfalls to rivers from drainage mains	2

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 Phosporous	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
Anahawan	Anahawan WWS	3	4	7	585	360	945	1,483	955	2,438
Bontoc	Bontoc WWS	5	1	6	315	4	319	1,068	22	1,090
	Mahayahay WS		1	1		40	40		240	240
	PAWASA		1	1		150	150		706	706
	Brgy. San Vicente		1	1		32	32		192	192
	Municipal Total	5	4	9	315	226	541	1,068	1,160	2,228
Hinunangan	Hinunangan	2	19	21	302	2,245	2,547	1,226	5,638	6,864
	Manlico		1	1		93	93		459	459
	Municipal Total	2	20	22	302	2,338	2,640	1,226	6,097	7,323
Hinundayan	Hinundayan	4	8	12	846	661	1,507	1,270	2,328	3,598
Libagon	Libagon WS	2	2	4	230	322	552	409	859	1,268
Liloan	Liloan	1	1	2	590	65	655	1,075	349	1,424
Maasin (Capital)	Maasin WD		14	14		2,194	2,194	10,815	5,210	16,025
Macrohon	Amparo WS		1	1		180	180		269	269
	Ichon		1	1		586	586		243	243
	San Roque WWS	1	3	4	205	30	235	340	285	625
	San Vicente	4	3	7	479		479	1,775		1,775
	Municipal Total	5	8	13	684	796	1,480	2,115	797	2,912
Malitbog	Malitbog WW	4		4	198		198	1,240		1,240
Padre Burgos	Padres Burgos	2	2	4	446	188	634	2,065	1,123	3,188
Pintuyan	Pintuyan WWS	3	18	21	85	377	462	283	889	1,172
Saint Bernard	Mun. WWS	3	5	8	360	521	881	3,400	4,976	8,376
San Francisco	San Francisco WW	3		3	318		318	1,844		1,844
San Ricardo	San Ricardo	1	2	3	153	223	376	487	1,120	1,607
Silago	Balagawan		1	1		66	66		364	364
	Catmon		1	1		14	14		68	68
	Hingatungan		1	1		161	161		961	961
	Imelda		1	1		14	14		84	84
	Katipunan		1	1		50	50		201	201
	Laguma		1	1		69	69		350	350
	Mercedes		1	1		174	174		309	309
	Puntana WWS	1		1	324		324	824		824
	Salvacion		1	1		47	47		237	237
	Sap-ang		1	1		28	28		139	139
	Sudmon		1	1		38	38		191	191
	Tuba-on		1	1		30	30		148	148
	Tubod		1	1		68	68		338	338
	Municipal Total	1	12	13	324	759	1,083	824	3,390	4,214
Sogod	Sogod WD	5	8	13	1,137	1,944	3,081	5,583	9,584	15,167
Tomas Oppus	Tomas Oppus	2		2	35		35	771		771
Provincial Total		46	108	154	6,608	10,974	17,582	35,958	38,837	74,795

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
Anabawan	Anabawan WWS		7	7	39	117	156	186	538	724
Bontoc	Bontoc WWS				395		395	1,012		1,012
	Mahayahay WS					53	53		270	270
	PAWASA					26	26		136	136
	Brgy. San Vicente					60	60		308	308
	Municipal Total				395	139	534	2,012	714	1,726
Hinunangan	Hinunangan					289	289		1,322	1,322
	Manlico									
	Municipal Total					289	289		1,322	1,322
Hinundayan	Hinundayan				376	836	1,212	1,782	1,385	3,167
Libagon	Libagon WS		50	50		623	623		3,016	3,016
Liloan	Liloan	2	2	4	8	394	402	40	1,866	1,906
Maasin (Capital)	Maasin WD		4	4		20	20		98	98
Macrohon	Amparo WS					117	117		567	567
	Ichon					297	297		1,438	1,438
	San Roque WWS		26	26		159	159		772	772
	San Vicente		22	22		480	480		2,319	2,319
	Municipal Total		48	48		1,053	1,053		5,096	5,096
Malitbog	Malitbog WW		2	2		10	10		53	53
Padre Burgos	Padres Burgos		7	7		119	119		613	613
Pintuyan	Pintuyan WWS		6	6		30	30		156	156
Saint Bernard	Mun. WWS		4	4		20	20		98	98
San Francisco	San Francisco WW									
San Ricardo	San Ricardo					390	390		1,958	1,958
Silago	Balagawan		14	14		27	27		77	77
	Catmon		3	3						
	Hingatungan		11	11		33	33		105	105
	Imelda		4	4		12	12		57	57
	Katipunan									
	Laguma		7	7		23	23		58	58
	Mercedes		17	17		31	31		94	94
	Puntana WWS		3	3	44	9	53	139	46	185
	Salvacion		3	3		9	9		46	46
	Sap-ang		7	7		21	21		96	96
	Sudmon		12	12		32	32		152	152
	Tuba-on		3	3		9	9		40	40
	Tubod		3	3		7	7		36	36
	Municipal Total		87	87	44	213	257	139	807	946
Sogod	Sogod WD									
Tomas Oppus	Tomas Oppus	10		10	99	1,588	1,687	342	2,114	2,456
Provincial Total		12	217	229	961	5,841	6,802	3,501	19,834	23,335

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
					(cu.m/day)			
Anahawan	Anahawan WWS	SP	5	894				
Bontoc	Bontoc WWS	DW/SP	2	336	198			
	Mahayahay WS	SP			29			
	PAWASA	SP						
	Brgy. San Vicente	SP		28	11			
	Municipal Total		2		238			
Hinunangan	Hinunangan	SP	1	1,800	1,563			
	Manlico	SP	1	64				
	Municipal Total		2		1,563			
Hinundayan	Hinundayan	SP	5	2,851				
Libagon	Libagon WS	SP	1	259				
Liloan	Liloan		1	240	55			
Maasin (Capital)	Maasin WD	SP	1	2,506	1,210		299	
Macrohon	Amparo WS							
	Ichon	SP	1	225				
	San Roque WWS	SP	1	284	4,035	390		
	San Vicente	SP	1	269	262	15	60	
	Municipal Total		3		4,297	405	60	
Malitbog	Malitbog WW	DW	1	184	368	184	184	
Padre Burgos	Padres Burgos		1	345	658	6	20	
Pintuyan	Pintuyan WWS	SP	4	403		740	1,575	
Saint Bernard	Mun. WWS	SP	2	1,861				
San Francisco	San Francisco WW	SP	1	576				
San Ricardo	San Ricardo	SP	4	408				
Silago	Balagawan	SP	1					
	Catmon	SP	1					
	Hingatungan	SP	1					
	Imelda	SP	1					
	Katipunan	SP	1					
	Laguma	SP	1					
	Mercedes	SP	1					
	Puntana WWS	SP	1					
	Salvacion	SP	1					
	Sap-ang	SP	1					
	Sudmon	SP	1					
	Tuba-on	SP	1					
	Tubod	SP	1					
	Municipal Total	SP	13					
Sogod	Sogod WD	SP	3	510				
Tomas Oppus	Tomas Oppus	SP	2	240				
Provincial Total			40	13,533	8,389	1,335	2,138	

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		Con-sumption (m^3/day)	Connection		Con-sumption (m^3/day)	Connection		Cons-umption (m^3/day)	Connection		Con-sumption (m^3/day)	Connection		Con-sumption (m^3/day)
		Metered	Unme-tered		Metered	Unme-tered		Metered	Unme-Tered		Metered	Unme-tered		Metered	Unme-tered	
Anahawan	Anahawan WWS															
Bontoc	Bontoc WWS	315	2	198.21												
	Mahayahay WS	40		22.00			7.00									
	PAWASA	150		0.40		1										
	Brgy. San Vicente	32	6	11.00												
	Municipal Total					1	7.00									
Hinunangan	Hinunangan	467		1,563.00												
	Maolico		87													
	Municipal Total	467	87	1,563.00												
Hinundayan	Hinundayan															
Libagon	Libagon WS															
Liloan	Liloan			55.00							13					
Maasin	Maasin WD	1,811		1,210							383		299			
Macrohon	Amparo WS															
	Ichon															
	San Roque WWS	243		3,645.00	26		390.00		1	390.00						
	San Vicente	303		202.00	20		60.00	2	2	15.00	3		60.00			
	Municipal Total	546		3,847.00	46		450.00	2	3	405.00	3		60.00			
Malitbog	Malitbog WW		167	184.00		2	184.00		3	184.00		16	184.00			
Padre Burgos	Padres Burgos	439	10	658.00	7	7		3	1	6.00	8		20.00			
Pintuyan	Pintuyan WWS	881			4			37		740.00	63		1,575.00			
Saint Bernard	Mun. WWS															
San Francisco	San Francisco	318														
San Ricardo	San Ricardo															
Silago	Balagawan															
	Catmon															
	Hingatungan															
	Imelda															
	Kanipunan															
	Laguna															
	Mercedes															
	Puntana WWS															
	Salvacion															
	Sap-ang															
	Sudmon															
	Tuba-on															
	Tubod															
	Municipal Total															
Sogod	Sogod WD															
Tomas Oppus	Tomas Oppus		35			10										
Provincial Total		6,012	359	13,159	103	11	1,098.00	44	10	1,740.00	473	16	2,198.00			

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				
					Length of Transmission Line (meter)	Reservoir		Length of Distribution Line (meter)	Number of Public Faucets
		Type	Number	Discharge (m^3/day)		Number	Volume (m^3)		
Anahawan	Calintaan BWSA	SP	1	54.5	200	1	36.0	100	5
	Capacuhan BWSA	SP	1	65.4	150	1	10.0	100	4
	Kagingkingan BWSA	SP	1	81.8	150	1	15.0	100	5
	Mainit BWSA	SP	1	81.8	175	1	15.0	100	4
	Manigawong	SP	1	54.5	250	1	10.0	125	3
	Municipal Total	SP	5	338.0	925	5	86.0	525	21
Bontoc	Anahao WS	DgW	1	54.5	250	1	8.6	200	4
	Catoogan WS	SP	1		2,000	1	27.0	225	4
	Cawayan WWS	SP	1	17.3		1	7.0	400	6
	Dao WS	SP	1	32.4				600	5
	Hibagwan WWS	SP	1	26.8	100	1	14.0	1,200	10
	Hilaan WS	SP	1	21.8	1,150	1	23.9	900	25
	Malbago WS	SP	1	26.8	4	1	27.0	528	8
	Mauylab WS	SP	1	38.9	25	1	8.7	1,000	6
	Taa WS	SP	1	2,851.2	18	2	1.0	650	11
	Municipal Total	DgW/SP	1/8	3,069.6	3,547	9	117.2	5,703	79
Hinunangan	Bugho WS	SP	1	33.7	1,900	1	6.0	1,000	4
	Calag-itan WS	SP	1	14.4	700	1	6.0	100	5
	Ilaya WS	SP	1	8.6	500	1	9.0	100	2
	Ingan WS	SP	1	48.6	1,000	1	8.0	1,500	5
	Libas WS	SP	1	23.0		1	3.4		3
	Matin-ao WS	SP	1	28.8	1,000	1		200	4
	Nava WS	SP	1	64.8	1,200	1	27.0	2,000	10
	Nueva Esperanza WS	SP	1	21.6	800	1	3.5	400	4
	Palongpong WS	SP	1	28.8	1,200	1	5.0	300	3
	Pondol WS	SP	1	38.9	1,510	1	12.0	500	6
	Sto. Niño II WS	SP	1	35.6	1,000	1	9.0	1,000	10
	Tuburan WS	SP	1	28.8	400	1	12.0	2	2
	Municipal Total	SP	12	375.7	11,210	12	100.9	7,102	58

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				
					Length of Transmission Line (meter)	Reservoir		Length of Distribution Line (meter)	Number of Public Faucets
		Type	Number	Discharge (m^3/day)		Number	Volume (m^3)		
Hinundayan	Amaga BWSA	SP	1	91.6	2,560	1	22.5	3,713	13
	Ambao BWSA	SP	1	118.8	3,146	1	32.0	4,593	21
	Biasong BWSA	SP	1	76.8	1,890	1	26.4	2,738	15
	Bugho BWSA	SP	1	97.9	2,865				9
	Cabulisan BWSA	SP	1	83.5	1,650	1	27.0	2,147	8
	Hubasan BWSA	SP	1	95.7	1,735	1	24.0	2,458	17
	Plaridel WS	SP	1	115.4	2,000	1	14.4	1,533	9
	Sagbok BWSA	SP	1	100.8	2,057	1	14.4	2,417	17
	Municipal Total	SP	8	780.5	17,903	7	160.7	19,599	109
Libagon	Biasong WS	SP	1	129.6		1	3.0	700	5
	Gakat,Nabaong and Na	SP	1	432.0	3,500	1	25.0	2,000	38
	Libagon WS	SP	1	172.8		1	94.2	4,000	40
	Magkasag WS	SP	1	172.8		1	4.0	1	8
	Mayuga WS	SP				1	4.0	4,500	16
	Otikon WS	SP	1	5.4		1	12.0	2	3
	Pangi	SP	1	86.4	500	1	4.0	500	6
	Municipal Total	SP	6	999.0	4,000	7	146.2	11,703	116
Liloan	Anilao WW	SP	1	345.6		1	12.0		4
	Bahay WS	SP	1	129.6	2,100	1	12.0	380	4
	Cagbungalon-Gudan W	SP	1	155.5	2,000	1	15.0	3,200	10
	Caligangan WS	SP	1	190.1	2,500	1	12.0	580	6
	Candayuman WS	SP	1	155.5	800	1	12.0	420	4
	Catig WS	SP	1	51.8	720	1	12.0	190	3
	Estela WS	SP	1	259.2	800	1	18.0	620	5
	Guintoylan WS	SP	1	60.5	1,300	1	12.0	560	4
	Magaupas WS	SP	1	259.2	550	1	19.0	650	6
	Maugoc WS	SP	1	51.8	2,000	1	12.0	420	4
	Pandan WS	SP	1	69.1	1,200	1	12.0	340	4
	Pres. Roxas WS	SP	1	103.7	610	1	15.0	1,350	6

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				
					Length of Transmission Line (meter)	Reservoir		Length of Distribution Line (meter)	Number of Public Faucets
		Type	Number	Discharge (m^3/day)		Number	Volume (m^3)		
Liloan	San Isidro WS	SP	1	259.2	1,200	1	15.0	800	6
	San Roque WS	SP	1	216.0	1,500	1	12.0	1,300	8
	Tabugon WS	SP	1	25.9	1,400	1	12.0	1,150	4
	Municipal Total	SP	15	2,332.8	18,680	15	202.0	11,960	78
Limasawa	Lugsongan BWSA	DW	1	144.0		1	22.0	750	7
	Magallanes BWSA	DW	1	144.0		1	21.0	300	6
	SARWASA	SP	1	38.9	1,950	3	49.2	1,200	16
	Municipal Total	DW/SP	2/1	326.9	1,950	5	92.2	2,250	29
Maasin (Capital)	Abgao WWS	SP	1	70.0	600	1	25.0	200	24
	Asuncion								29
	Badiang	DW	1	43.6	800	1	12.5	150	15
	Basak								13
	Bato I	SP	1	26.0		1	12.5		8
	Bato II								12
	Batuan	SP	1	43.2	200	1	12.5	100	22
	Baugo								7
	Bogo	SP	1	43.2		1	12.5		10
	Cabadiagan	SP	1	52.0	500	1	12.5	120	13
	Cagnituan	SP	1	103.6	500	1	12.5	110	12
	Cansirong	SP	1	69.0	360	1	12.5	110	16
	Canturing								7
	Canyuom	SP	1	69.0	600	1	12.5	130	16
	Combado								40
	Guadalupe								3
	Hanginan	SP	1	43.2	700	1	12.5	120	12
	Hinapu Daku	SP	1	43.2		1	18.8		16
	Hinapu Gamay	SP	1	43.2	600	1	18.8	110	22
	Ibarra								27
	Lanao	SP	1	34.5	200	1	12.5	50	16

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
Maasin (Capital)	Libertad	SP	1	43.2	800	1	12.5	125	18
	Libhu	SP	1	69.1	1,200	1	27.0	200	35
	Lonoy	SP	1	69.1	600	1	27.0	120	18
	Lunas								27
	Mahayhay								10
	Malapoc Norte								10
	Mambajao								9
	Manhilo								16
	Mantahan								19
	Matin-ao								8
	Nati								7
	Nonok Norte								11
	Nonok Sur								12
	Pansaan								7
	Pinaskuhan								11
	Rizal								17
	San Agustin								11
	San Isidro								4
	San Jose								2
	Soro-soro								8
	Sta. Cruz								15
	Sta. Rosa								3
	Sto. Niño								11
	Sto. Rosario								10
	Tagnipa								22
	Tam-is								11
	Tigbawan								13

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				
					Length of Transmission Line (meter)	Reservoir		Length of Distribution Line (meter)	Number of Public Faucets
		Type	Number	Discharge (m^3/day)		Number	Volume (m^3)		
Maasin (Capital)	Tomoy-tomoy								5
	Tunga-tunga								3
	Municipal Total	DW/SP	1/15	865.1	7,660	16	254.1	1,645	693
Macrohon	Danao WWS	SP	1	220.0	25	1	28.0	420	8
	Laray WWS	SP	1	168.0	150	1	30.0	820	8
	San Joaquin WS	SP	1	150.0	40	1	320.0	650	6
	San Roque WWS	SP	1	276.9	450	1	32.0	1,900	14
	Sindangan WWS	SP	1	440.0	30	1	40.0	650	12
	Sto. Niño WWS	SP	1	443.1	120	1	46.0	780	17
	Macrohon WWS	SP	1	170.0	35	1	48.0	1,950	18
	Municipal Total	SP	7	1,868.0	850	7	544.0	7,170	83
Malitbog	Aurora BWSA	SP	1	22.5	250	1	1.0		3
	Caaga BWSA	SP	1	22.5	1,000	1	5.8	50	5
	Cadaruhan Norte BWS	SP	1	17.3	1,200	1	5.0	108	3
	Cadaruhan Sur BWSA	SP	1	17.3	1,500	1	3.3	200	2
	Caraatan BWSA	SP	1	13.0	600	2	0.2	300	5
	Fatima BWSA								
	Guinabonan BWSA	SP	1	34.6	150	1	4.0	300	4
	Iba BWSA	SP	1	5.2	140	1	2.0	315	3
	Kauswagan BWSA	SP	1	13.8	400	1	5.0	25	3
	Lambonao BWSA	SP	1	17.3	150	1	3.0	95	6
	Mahayhay BWSA	SP	1	17.3	500	2	3.0	200	4
	Maningning BWSA	SP	1	22.5	200	1	2.0		6
	Maujo BWSA	SP	1	34.6	1,500	1	4.0	304	6
	New Katipunan BWSA	SP	1	22.5	700	1	2.0	100	2
	Pancil BWSA	SP	1	17.3	50	1	5.0	100	5
	San Vicente BWSA	SP	1	28.5	1,000	2	4.0	2,000	3
	Sangahon BWSA	SP	1	17.3	300	1	3.0	100	2
	Sta. Cruz BWSA	SP	1	17.3	200	1	3.0	800	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				
					Length of Transmission Line (meter)	Reservoir		Length of Distribution Line (meter)	Number of Public Faucets
		Type	Number	Discharge (m^3/day)		Number	Volume (m^3)		
Malitbog	Sto. Niño BWSA	SP	1	11.2	150	1	3.0	80	2
	Tigbawani BWSA	SP	1	17.3	500	1	3.5	135	5
	Timba BWSA	SP	1	22.5	750	1	3.0	100	4
	Municipal Total	SP	20	391.4	11,240	23	64.8	5,312	77
Padre Burgos	Bunga WS	SP	1	86.4	3	1	42.0	1,700	6
	Cantutang WS	SP	1	172.8	650	2	22.5	3,800	7
	San Juan WS	SP	1	51.8	30	2	15.0	1,500	4
	Sto. Rosario WS	SP	1	86.4	3	1	42.0	2,300	7
	Municipal Total	SP	4	397.4	686	6	121.5	9,300	24
Pintuyan	Badiang WWS	SP	1	198.7	3,500	1	18.0	1,500	11
	Balongbalong WWS	SP	1	172.8	1,650	1	16.8	850	5
	Buenavista WWS	SP	1	172.8		1	18.0		2
	Bulawan WWS	SP	1	216.0	800	1	14.4	700	5
	Catbawan WWS	SP	1	190.1	1,800	1	18.0	700	5
	Caubang WWS	SP	1	190.1	320	1	21.0	880	8
	Cogon WWS	SP	1	172.8		1	14.4		14
	Dan-an WWS	SP	1	181.4	1,300	1	18.0	700	4
	Lobo WWS	SP	1	190.1	1,000	1	18.0	1,000	3
	Mainit WWS	SP	1	198.7	420	1	18.0	580	6
	Nva. Estrella Norte WWS	SP	1	198.7	1,250	1	18.0	750	3
	Nva. Estrella Sur WWS	SP	1	302.4	2	1	54.4	700	2
	P.D. Equipilag WWS	SP	1	216.0	3,000	1	48.0	700	3
	Son-ok I WWS	SP	1	216.0	850	1	21.0	650	3
	Son-ok II WWS	SP	1	207.4	300	1	21.0	1,200	3
	Tautag WWS	SP	1	172.8	2,646	1	14.4	354	5
	Municipal Total	SP	16	3,196.8	18,838	16	351.4	11,264	82
Saint Bernard	Ayahag BWSA	SP	1	1,728.0	1,800	2	6.9		32
	Carnaga WWS	SP	1	1,987.2	1,715	1	6.9		16
	Guinsaugon BWSA	SP	1	2,808.0	2,300	1	10.4	873	3

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				
					Length of Transmission Line (meter)	Reservoir		Length of Distribution Line (meter)	Number of Public Faucets
		Type	Number	Discharge (m^3/day)		Number	Volume (m^3)		
Saint Bernard	Himos-onan BWSA	SP	1	3,888.0	3,000	2	20.7	715	11
	Magatas BWSA	SP	1	2,419.2	3,000	1	6.9	250	9
	Panian BWSA	SP	1	2,211.8	2,350	1	9.0	822	4
	Sta. Cruz WWS	SP	1	2,808.0	1,200				3
	Sug-angon WWS	SP	1	1,036.8	1,800	1	119.0	328	13
	Municipal Total	SP	8	18,887.0	17,165	9	179.8	2,988	91
San Francisco	Anislagon WS	SP	1	17.3	200	1	6.0	500	6
	Bongawisan WS	SP	1	69.1	1,800	1	10.0	400	3
	Bongbong WS	SP	1	43.2	500	3	12.0	1,000	13
	Cahayag WS	SP	1	43.2	50	1	18.0	500	3
	Cuasi WS	SP	1	51.8	150	2	4.0	700	9
	Gabi WS	SP	1	69.1	3	1	10.0	400	3
	Habay WS	SP	1	25.9	1,500	1	5.5	1,000	4
	Malico WS	SP	1	34.6	250	2	10.0	500	7
	Marayag WS	SP	1	25.9	490	2	5.0	1,500	7
	Pasanon WS	SP	1	17.3	300	2	9.5	200	5
	Pinamudlan WS	SP	1	51.8	900	2	10.0	900	14
	Punta WS	SP	1	34.6	100	2	12.0	250	3
	Sta. Cruz WS	SP	1	34.6	65	2	18.0	258	9
	Sta. Paz Norte WS	SP	1	43.2	1,200	2	20.0	2,000	9
	Sta. Paz Sur WS	SP	1	25.9	2,000	1	50.0	150	3
	Sudmon WS	SP	1	25.9	200	1	18.0	400	10
	Tinaan WS	SP	1	43.2	500	2	7.5	1,000	6
	Tuno WS	SP	1	51.8	140	2	19.2	198	20
	Municipal Total	SP	18	708.5	10,348	30	244.7	11,856	134
San Juan (Cabalian)	Agay-ay BWSA	SP	1	21.6	1,800	1	5.3	650	11
	Basak BWSA	SP	1	138.2	1,876	1	17.8	989	21
	Bobon A BWSA	SP	1	259.2	2,000	1	18.0	550	19
	Bobon B BWSA	SP	1	216.0	1,500	1	8.0	700	14

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				
					Length of Transmission Line (meter)	Reservoir		Length of Distribution Line (meter)	Number of Public Faucets
		Type	Number	Discharge (m^3/day)		Number	Volume (m^3)		
San Juan (Cabalian)	Dayanog BWSA	SP	1	103.7	1,200	1	8.0	600	7
	Garrido BWSA	SP	1	43.2	1,700	2	9.0	800	19
	Minoyho BWSA	SP	1	72.0	3,000	1	15.6	500	15
	Osao BWSA	SP	1	172.8	1,000	1	5.3	650	42
	Pong-oy BWSA	SP	1	129.6	2,800	1	15.6	600	19
	San Roque BWSA	SP	1	86.4	1,000	1	8.4	600	8
	San Vicente BWSA	SP	1	95.0	1,800	2	21.9	928	19
	Somoje BWSA	SP	1	146.9	1,000	2	7.5	600	10
	Sta. Filomena BWSA	SP	1	129.6	3,500	1	17.0	500	13
	Sua BWSA	SP	1	345.6	1,876	2	20.3	700	42
	Timba BWSA	SP	1	172.8	3,000	1	17.9	600	6
	Municipal Total	SP	15	2,132.6	29,052	19	195.6	9,967	265
San Ricardo	Esperanza WS	SP	1	69.1	165	2	22.0	2,750	18
	Kinachawa WS	SP	1	43.2	1,940	2	5.1	800	8
	Lo-oc WS	SP	1	51.8	500	1	4.6	810	4
	Malingin Mun. WS	SP	1	43.2	5,500	1	105.5	1,806	3
	Pinut-an WS	SP	1	172.8	2,090	5	63.7	1,670	18
	Private Land WS	SP	1	51.8	245	1	180.0	240	5
	San Ramon WS	SP	1	51.8	60	2	9.5	108	7
	Saub WS	SP	1	138.2	260	2	234.0		4
	Timba-Camang WS	SP	1	129.6	2,040	2	10.0	1,344	15
	Municipal Total	SP	9	751.7	12,800	18	634.4	9,528	82
Silago	Balagawan								14
	Catmon	SP	1	103.7	4	1	6.0	500	8
	Hingatungan								11
	Imelda	SP	1	103.7	1,400	1	14.4	2,500	2
	Katipunan	SP	1	121.0	2,000	1	14.4	800	4
	Laguma								7
	Mercedes								17

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				
					Length of Transmission Line (meter)	Reservoir		Length of Distribution Line (meter)	Number of Public Faucets
		Type	Number	Discharge (m^3/day)		Number	Volume (m^3)		
Silago	Pob. District I								22
	Pob. District II								6
	Puntana	SP	1	114.9	1,500	1	14.4	500	4
	Salvacion								3
	Sap-ang								51
	Sudmon								4
	Tuba-on								5
	Tubod								10
	Municipal Total		4	443.3	4,904	4	49.2	4,300	168
Sogod	Cabadbaran	SP	1	17.3	100	1	1.8	200	4
	Hindangan	SP	1	25.9	150	1	1.8	180	5
	Hipantag	SP	1	21.6	213	1	5.5	500	3
	Kanangkaan	SP	1	21.6	500	2	4.5	1,250	8
	Libas	SP	1	148.6	3,000	1	1.8	1,000	12
	Mabicay	SP	1	25.9	500	1	3.5	200	8
	Magatas	SP	1	63.1	800	1	2.1	200	12
	Malinao	SP	1	16.4	120	1	8.2	660	4
	Milagroso	SP	1	25.9	600	1	1.8	900	6
	Olisihan	SP	1	25.9	3,000	3	9.5	1,000	8
	Pancho Villa	SP	1	63.1	500	1	8.9	700	12
	San Juan	SP	1	48.4	3,000	3	2.8	100	3
	San Miguel	SP	1	33.7	500	1	1.8	600	5
	San Roque	SP	1	10.4	65	1	1.8	235	3
	San Vicente	SP	1	25.9	150	1	1.8		2
	Santa Maria	SP	1	17.3	1,260	1	5.3	300	3
	Suba	SP	1	69.1	100	4	98.0	1,000	35
	Tampoong	SP	1	27.6	1,000	3	2.3	1,000	9
	Zone III	SW	1			1	2.0	500	5
	Municipal Total	SP/SW	18/1	687.7	15,558	29	165.2	10,525	147

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				
					Length of Transmission Line (meter)	Reservoir		Length of Distribution Line (meter)	Number of Public Faucets
		Type	Number	Discharge (m^3/day)		Number	Volume (m^3)		
Tomas Oppus	Camansi	SP	1	13.8	40	1	7.5	35	3
	Cambite	SP	1	85.0	1,500	1	8.0	400	10
	Canlupao	SP	1	13.8	900	1	22.5	1,080	15
	Caranaga	SP	1	9.6	55	1	156.0	48	6
	Cawayan	SP	1	8.6	300	3	144.0	300	8
	Higosoan	SP	1	8.6	50	1	22.0	35	5
	Himagtikan	SP	1	13.8	180	2	7.5	150	2
	Hinapo	SP	1	10.8	40	1	25.0	270	5
	Hugpa	SP	1	14.4	45	1	25.0	30	6
	Iniguihan	SP	1	21.6	270	1	12.0	480	4
	Looc	SP	1	86.4	100	1	25.0	150	15
	Maanyag	SP	1	34.6	60			50	5
	Mag-ata	SP	1	43.2	1,500	2	25.0	900	16
	Maslog	SP	1	21.6	150	2	17.5	300	104
	Ponong	SP	1	17.3	1,500	2	36.0	900	31
	Rizal	SP	1	21.6	720	4	11.5	120	4
	San Miguel	SP	1	21.6	300	2	15.0	180	11
	San Roque	SP	1	8.6	900	3	7.5	180	21
	San Agustin	SP	1	21.6	240	2	8.0	360	25
	San Antonio	SP	1	17.3	200	1	28.0	78	8
	San Isidro	SP	1	28.5	2,100	2	24.5	2,400	10
	Municipal Total	SP	21	522.4	11,150	34	627.5	8,446	314
Provincial Total			215	39,074.6	198,466	271	4,337.4	151,143	2,650

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
Anahawan	Calintaan BWSA		1	1		20	20		91	91
	Capacuhan BWSA		1	1		25	25		114	114
	Kagingkingan BWSA		1	1		25	25		114	114
	Mainit BWSA		1	1		20	20		91	91
	Manigawong		1	1		15	15		68	68
	Municipal Total		5	5		105	105		478	478
Bontoc	Anahao WS		1	1		39	39		219	219
	Catoogan WS		1	1		60	60		333	333
	Cawayan WWS		1	1		90	90		495	495
	Dao WS		1	1		52	52		259	259
	Hibagwan WWS		1	1		50	50		255	255
	Hilaan WS		1	1		300	300		1,650	1,650
	Malbago WS		1	1		99	99		545	545
	Mauylab WS		1	1		80	80		440	440
	Taa WS		1	1		106	106		576	576
	Municipal Total		9	9		876	876		4,772	4,772
Hinunangan	Bugho WS		1	1		20	20		91	91
	Calag-itan WS		1	1		219	219		1,037	1,037
	Ilaya WS		1	1		74	74		340	340
	Ingan WS		1	1		190	190		114	114
	Libas WS		1	1		49	49		68	68
	Matin-ao WS		1	1		20	20		91	91
	Nava WS		1	1		356	356		1,406	1,406
	Nueva Esperanza WS		1	1		129	129		91	91
	Palongpong WS		1	1		15	15		68	68
	Pondol WS		1	1		30	30		137	137

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
Hinunangan	Sto. Niño II WS		1	1		170	170		228	228
	Tuburan WS		1	1		104	104		470	470
	Municipal Total		12	12		1,376	1,376		4,141	4,141
Hinundayan	Amaga BWSA		1	1		65	65		311	311
	Ambao BWSA		1	1		105	105		502	502
	Biasong BWSA		1	1		75	75		359	359
	Bugho BWSA		1	1		45	45		215	215
	Cabulisan BWSA		1	1		40	40		191	191
	Hubasan BWSA		1	1		85	85		406	406
	Plaridel WS		1	1		45	45		215	215
	Sagbok BWSA		1	1		85	85		406	406
	Municipal Total		8	8		545	545		2,605	2,605
Libagon	Biasong WS		1	1		25	25		121	121
	Gakat,Nahaong and Nahulid		3	3		190	190		920	920
	Libagon WS	2	2	4	60	140	200	300	678	978
	Magkasag WS		1	1		40	40		192	192
	Mayuga WS		1	1		80	80		387	387
	Otikon WS		1	1		15	15		73	73
	Pangi		1	1		30	30		145	145
	Municipal Total	2	10	12	60	520	580	300	2,516	2,816
Liloan	Anilao WW		1	1		20	20		95	95
	Bahay WS		1	1		20	20		95	95
	Cagbungalon-Gudan WS		2	2		50	50		237	237
	Caligangan WS		1	1		30	30		142	142
	Candayuman WS		1	1		20	20		95	95
	Catig WS		1	1		15	15		71	71

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
Liloan	Estela WS		1	1		20	20		95	95
	Guintoylan WS		1	1		20	20		95	95
	Magaupas WS		1	1		30	30		142	142
	Maugoc WS		1	1		20	20		95	95
	Pandan WS		1	1		20	20		95	95
	Pres. Roxas WS		1	1		30	30		142	142
	San Isidro WS		1	1		30	30		142	142
	San Roque WS		1	1		40	40		190	190
	Tabugon WS		1	1		20	20		95	95
	Municipal Total		16	16		385	385		1,826	1,826
Limasawa	Lugsongan BWSA		1	1		35	35		174	174
	Magallanes BWSA		1	1		30	30		149	149
	SARWASA		2	2		80	80		398	398
	Municipal Total		4	4		145	145		721	721
Maasin (Capital)	Abgao WWS	1		1	206		206	1,030		1,030
	Asuncion	1		1	143		143	715		715
	Badiang		1	1		127	127		635	635
	Basak		1	1		39	39		195	195
	Bato I		1	1		50	50		300	300
	Bato II		1	1		34	34		170	170
	Batuan		1	1		126	126		630	630
	Baugo		1	1		21	21		105	105
	Bogo		1	1		44	44		222	222
	Cabadiagan		1	1		59	59		356	356
	Cagnituan		1	1		52	52		314	314
	Cansirong		1	1		102	102		612	612

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
Maasin (Capital)	Canturing		1	1		18	18		92	92
	Canyuom		1	1		67	67		400	400
	Combado	1		1	199		199	998		998
	Guadalupe	1		1	8		8	38		38
	Hanginan		1	1		79	79		395	395
	Hinapu Daku		1	1		89	89		539	539
	Hinapu Gamay		1	1		84	84		509	509
	Ibarra	1		1	134		134	670		670
	Lanao		1	1		55	55		275	275
	Libertad		1	1		47	47		285	285
	Libhu		1	1		118	118		590	590
	Lonoy		1	1		74	74		500	500
	Lunas		1	1		135	135		674	674
	Mahayhay		1	1		48	48		240	240
	Malapoc Norte		1	1		51	51		255	255
	Mambajao	1		1	43		43	218		218
	Manhilo		1	1		80	80		400	400
	Mantahan	1		1	93		93	464		464
	Matin-ao		1	1		41	41		209	209
	Nati		1	1		35	35		177	177
	Nonok Norte		1	1		57	57		285	285
	Nonok Sur		1	1		60	60		301	301
	Pansaan		1	1		37	37		183	183
	Pinaskuhan		1	1		55	55		278	278
	Rizal		1	1		87	87		435	435
	San Agustin		1	1		56	56		282	282

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
Maasin (Capital)	San Isidro		1	1		21	21		103	103
	San Jose		1	1		9	9		46	46
	Soro-soro	1		1	39		39	197		197
	Sta. Cruz		1	1		74	74		369	369
	Sta. Rosa		1	1		14	14		70	70
	Sto. Niño		1	1		54	54		270	270
	Sto. Rosario		1	1		50	50		250	250
	Tagnipa	1		1	110		110	550		550
	Tam-is		1	1		55	55		275	275
	Tigbawan		1	1		63	63		316	316
	Tomoy-tomoy		1	1		25	25		123	123
	Tunga-tunga	1		1	14		14	68		68
	Municipal Total	10	40	50	989	2,392	3,381	4,948	12,665	17,613
Macrohon	Danao WWS		1	1		40	40		193	193
	Laray WWS		1	1		40	40		193	193
	San Joaquin WS		1	1		30	30		145	145
	San Roque WWS		2	2		70	70		338	338
	Sindangan WWS		1	1		60	60		290	290
	Sto. Niño WWS		2	2		85	85		411	411
	Macrohon WWS		2	2		90	90		435	435
	Municipal Total		10	10		415	415		2,005	2,005
Malitbog	Aurora BWSA		1	1		72	72		173	173
	Caaga BWSA		1	1		81	81		180	180
	Cadaruhan Norte BWSA		1	1		72	72		143	143
	Cadaruhan Sur BWSA		1	1		71	71		175	175
	Caraatan BWSA		1	1		55	55		184	184

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
Malitbog	Fatima BWSA		1	1		23	23		104	104
	Guinabonan BWSA		1	1		43	43		113	113
	Iba BWSA		1	1		62	62		112	112
	Kauswagan BWSA		1	1		33	33		145	145
	Lambonao BWSA		1	1		83	83		207	207
	Mahayhay BWSA		1	1		77	77		110	110
	Maningning BWSA		1	1		59	59		207	207
	Maujo BWSA		1	1		128	128		241	241
	New Katipunan BWSA		1	1		44	44		139	139
	Pancil BWSA		1	1		60	60		148	148
	San Vicente BWSA		1	1		246	246		244	244
	Sangahon BWSA		1	1		131	131		101	101
	Sta. Cruz BWSA		1	1		175	175		214	214
	Sto. Niño BWSA		1	1		59	59		105	105
	Tigbawani BWSA		1	1		53	53		109	109
	Timba BWSA		1	1		105	105		145	145
	Municipal Total		21	21		1,732	1,732		3,299	3,299
Padre Burgos	Bunga WS		1	1		30	30		153	153
	Cantutang WS		1	1		35	35		179	179
	San Juan WS		1	1		20	20		102	102
	Sto. Rosario WS		1	1		35	35		179	179
	Municipal Total		4	4		120	120		613	613
Pintuyan	Badiang WWS		2	2		55	55		289	289
	Balongbalong WWS		1	1		25	25		131	131
	Buenavista WWS		1	1		10	10		53	53
	Bulawan WWS		1	1		25	25		131	131

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
Pintuyan	Catbawan WWS		1	1		25	25		131	131
	Caubang WWS		1	1		40	40		210	210
	Cogon WWS		1	1		35	35		184	184
	Dan-an WWS		1	1		20	20		105	105
	Lobo WWS		1	1		15	15		79	79
	Mainit WWS		1	1		30	30		158	158
	Nva. Estrella Norte WWS		1	1		15	15		79	79
	Nva. Estrella Sur WWS		1	1		10	10		53	53
	P.D. Equipilag WWS		1	1		15	15		79	79
	Son-ok I WWS		1	1		15	15		79	79
	Son-ok II WWS		1	1		15	15		79	79
	Tautag WWS		1	1		25	25		131	131
	Municipal Total		17	17		375	375		1,971	1,971
Saint Bernard	Ayahag BWSA		1	1		160	160		792	792
	Carnaga WWS		1	1		80	80		396	396
	Guinsaugon BWSA		1	1		15	15		74	74
	Himos-onan BWSA		2	2		55	55		272	272
	Magatas BWSA		1	1		45	45		223	223
	Panian BWSA		1	1		20	20		99	99
	Sta. Cruz WWS		1	1		15	15		74	74
	Sug-angon WWS		1	1		65	65		322	322
	Municipal Total		9	9		455	455		2,252	2,252
San Francisco	Anislagon WS		1	1		30	30		137	137
	Bongawisan WS		1	1		15	15		68	68
	Bongbong WS		1	1		65	65		296	296
	Cahayag WS		1	1		15	15		68	68

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 Francisco	Cuasi WS		1	1		45	45		205	205
	Gabi WS		1	1		15	15		68	68
	Habay WS		1	1		20	20		91	91
	Malico WS		1	1		35	35		159	159
	Marayag WS		1	1		35	35		159	159
	Pasanon WS		1	1		25	25		114	114
	Pinamudlan WS		1	1		70	70		318	318
	Punta WS		1	1		15	15		68	68
	Sta. Cruz WS		1	1		45	45		205	205
	Sta. Paz Norte WS		1	1		45	45		205	205
	Sta. Paz Sur WS		1	1		15	15		68	68
	Sudmon WS		1	1		50	50		228	228
	Tinaan WS		1	1		30	30		137	137
	Tuno WS		1	1		100	100		455	455
	Municipal Total		18	18		670	670		3,049	3,049
San Juan (Cabalian)	Agay-ay BWSA		1	1		55	55		193	193
	Basak BWSA		1	1		105	105		422	422
	Bobon A BWSA		1	1		95	95		376	376
	Bobon B BWSA		1	1		70	70		262	262
	Dayanog BWSA		1	1		35	35		101	101
	Garrido BWSA		1	1		95	95		376	376
	Minoyho BWSA		1	1		75	75		285	285
	Osao BWSA		1	1		210	210		480	480
	Pong-oy BWSA		1	1		95	95		376	376
	San Roque BWSA		1	1		40	40		125	125
	San Vicente BWSA		1	1		95	95		376	376

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 Juan (Cabalian)	Somoje BWSA		1	1		50	50		170	170
	Sta. Filomena BWSA		1	1		65	65		239	239
	Sua BWSA		1	1		210	210		481	481
	Timba BWSA		1	1		30	30		137	137
	Municipal Total		15	15		1,325	1,325		4,399	4,399
San Ricardo	Esperanza WS		1	1		90	90		452	452
	Kinachawa WS		1	1		40	40		201	201
	Lo-oc WS		1	1		20	20		100	100
	Malingin Mun. WS		3	3		15	15		75	75
	Pinut-an WS		1	1		90	90		452	452
	Private Land WS		1	1		20	20		100	100
	San Ramon WS		1	1		35	35		176	176
	Saub WS		1	1		20	20		100	100
	Timba-Camang WS		2	2		75	75		377	377
	Municipal Total		12	12		405	405		2,033	2,033
Silago	Balagawan		1	1		80	80		270	270
	Catmon		1	1		25	25		116	116
	Hingatungan		1	1		45	45		208	208
	Imelda		1	1		10	10		46	46
	Katipunan		1	1		10	10		46	46
	Laguma		1	1		30	30		139	139
	Mercedes		1	1		20	20		93	93
	Pob. District I	1		1	35		35	83		83
	Pob. District II	1		1	52		52	162		162
	Puntana		1	1		10	10		61	61
	Salvacion		1	1		45	45		223	223