# 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 – [3]

# **SUPPORTING REPORT**

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

LEYTE



DECEMBER 1999

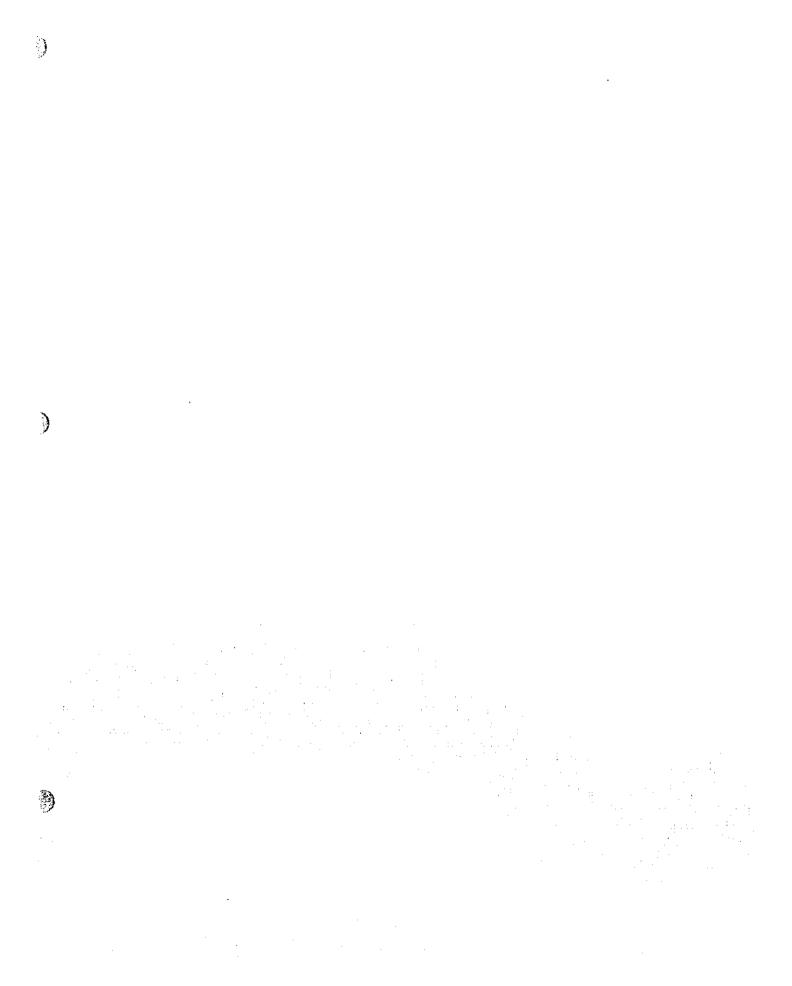
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LEYTE



DECEMBER 1999 NIPPON JOGESUIDO SEKKEI CO., LTD. .



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# PROVINCIAL WATER SUPPLY, SEWERAGE AND SANITATION SECTOR PLAN

### VOLUME II SUPPORTING REPORT

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#### I. INTRODUCTION

1.3 The Provincial Plan for the Province of Leyte

1.3.1 Preparation of the Plan

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#### MINUTES OF DISCUSSIONS

#### ON

#### THE INCEPTION 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

MR. NORMANDO J. TOLEDO Director Office of the Project Development Services Dept. of the Interior and Local Government MANILA, JANUARY 26, 1998

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.

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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 1<sup>st</sup> batch and 2<sup>nd</sup> 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 1<sup>st</sup> batch provinces of Misamis Oriental and Surigao del Sur prompted their transfer to the 2<sup>nd</sup> batch. Instead, Davao del Sur and Davao Oriental from the 2<sup>nd</sup> 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 <sup>st</sup> BATCH	2 <sup>nd</sup> BATCH	3 <sup>rd</sup> BATCH	4 <sup>th</sup> BATCH
<b>}</b> .	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  $2^{nd}$  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.

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#### 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 1<sup>st</sup> and 2<sup>nd</sup> batches and 1998 for 3<sup>rd</sup> and 4<sup>th</sup> 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

(f)

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 1<sup>st</sup> 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;

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

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Appendix A

## LIST OF ATTENDEES IN THE SERIES OF DISCUSSIONS

ATTENDEES
A. DILG

Mr. Normando J. Toledo
Mr. Orville M. Roque
Ms. Ellen I. Pascua
Mr. Rogelio B. Ocampo
Ms. Fe Crisilla M. Banluta

B. Other Agencies

Mr. Sam Siao
Dr. Mario Villaverde

JICA Advisory Committee

Ms. Keiko Yamamoto
Mr. Keiichi Kanaya

JICA Headquarters

Mr. Shigeyuki Matsumoto

3

E. JICA Study Team
1. Mr. Masatoshi Momose
2. Mr. Nobuki Abe
3. Ms. Consuelo B. Estepa
4. Ms. Elizabeth L. Verzola

5. Mr. Kenji Takayanagi

6. Mr. Emmanuel L. Patingo

#### **DESIGNATION**

Director, Office of Project Development Services

Program Manager, WSS-PMO Asst. Program Manager, WSS-PMO Chief, Planning Division, WSS-PMO PW4SP Project Officer, WSS-PMO

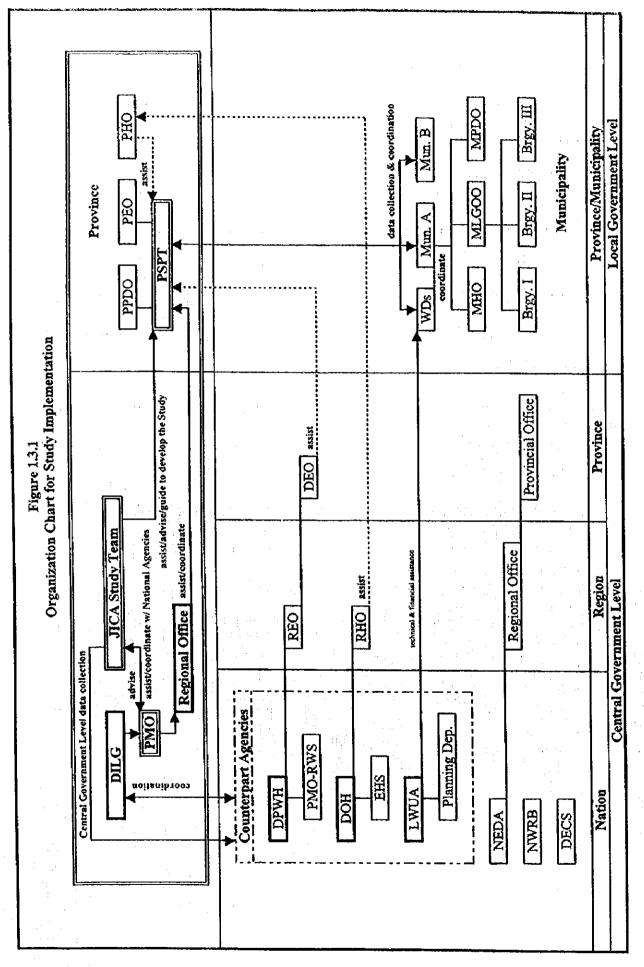
Officer, PMO-RWS, DPWH Director, EHS, DOH

Chairman, Advisory Committee Member, Advisory Committee

Second Development Study Division, Social Development Study Dept.

Team Leader/Water Supply Planning Water Supply/Sanitation Engineer Community Dev't/WID Specialist Socio-Economic/Financial Specialist Water Source Development Specialist Data Management Specialist

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#### 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

9

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

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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 1<sup>st</sup> 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  $2^{nd}$  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  $2^{nd}$  Batch

The total number of provinces for the  $2^{nd}$  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  $1^{st}$  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  $2^{nd}$  batch provinces. Accordingly, it is pet 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

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

- 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

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## LIST OF ATTENDEES IN THE SERIES OF DISCUSSION

#### **ATTENDEES**

#### A. DILG

1. Mr. Orville M. Roque

2. Ms. Ellen I. Pascua

3. Mr. Rogelio B. Ocampo

4. Ms. Fe Crisilla M. Banluta

5. Ms. Charito Araza

6. Ms. Maria Contessa Navarro

7. Ms. Josephine Ramos

8. Ms. Susan Mangoda

9. Ms. Crisanta Rapirap

**B.** JICA Study Team

1. Mr. Masatoshi Momose

2. Mr. Nobuki Abe

3. Mr. Kenji Takayanagi

4. Ms. Consuelo B. Estepa

5. Ms. Elizabeth L. Verzola

Program Manager, WSS-PMO Asst. Program Manager, WSS-PMO Chief, Planning Division, WSS-PMO PW4SP Project Officer, WSS-PMO Area Coordinator, WSS-PMO Area Coordinator, WSS-PMO Area Coordinator, WSS-PMO Area Coordinator, WSS-PMO

DESIGNATION

Team Leader/Water Supply Planning Water Supply/Sanitation Engineer Water Source Development Specialist Community Dev't./WID Specialist 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

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A

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

MANILA, AUGUST 27, 1998

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

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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 1<sup>st</sup> batch study, the study for the 2<sup>nd</sup> batch will start on August 30 with an "Orientation Workshop". It is further scheduled that the 2<sup>nd</sup> batch study will be finalized by February 1999 and 3<sup>rd</sup> 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 1<sup>st</sup> 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 1<sup>st</sup> 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 2<sup>nd</sup> batch study, both parties have agreed on the general approach and methodology, and implementation arrangements adopted for the 1<sup>st</sup> batch study. Among them, the following are the basic conditions to be applied for the planning.

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(1) Study Area

The DILG completed the exchange of MOA with the 2<sup>nd</sup> 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 1<sup>st</sup> 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 1<sup>st</sup> 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 2<sup>nd</sup> 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 3<sup>rd</sup> batch study, the DILG will confirm the subject provinces including the model province through the MOA by December 1998.

#### Appendix A

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#### LIST OF ATTENDEES IN THE SERIES OF DISCUSSIONS

#### ATTENDEES

- A. DILG
  - 1. Mr. Normando J. Toledo
  - 2. Ms. Ellen I. Pascua
  - 3. Mr. Rogelio B. Ocampo
  - 4. Ms. Fe Crisilla M. Banluta

#### B. Other Agencies

- 1. Ms. Cristina Santiago
- C. JICA Advisory Committee
  - 1. Ms. Keiko Yamamoto
  - 2. Mr. Keiichi Kanaya
- D. JICA Headquarters
  - 1. Ms. Akiko Hayashi
- E. JICA Study Team
  - 1. Mr. Masatoshi Momose
  - 2. Mr. Nobuki Abe
  - 3. Mr. Kenji Hiramatsu
  - 4. Ms. Consuelo B. Estepa
  - 5. Ms. Elizabeth L. Versola
  - 6. Mr. Emmanuel L. Patingo

#### **DESIGNATION**

Director, Office of Project Development Services

Acting Program Manager, WSS-PMO Chief, Planning Division, WSS-PMO PW4SP Project Officer, WSS-PMO

#### PIS, NEDA

Chairman, Advisory Committee Member, Advisory Committee

Second Development Study Division, Social Development Study Depart.

Team Leader/Water Supply Planning Water Supply/Sanitation Engineer Institutional Specialist Community Dev't./Gender Specialist Socio-Economic/Financial Specialist

Data Management Specialist

#### MINUTES OF DISCUSSIONS

#### ON

# THE DRAFT FINAL REPORT (2<sup>nd</sup> BATCH)

#### FOR

#### THE STUDY ON PROVINCIAL WATER SUPPLY, SEWERAGE AND

#### SANITATION SECTOR PLANS

FOR

#### VISAVAS 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

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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.

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The study for the 2<sup>rd</sup> 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 2<sup>rd</sup> batch study, the study for the 3<sup>rd</sup> batch was started with an "Orientation Workshop" on February 8 to 10, 1999. It is further scheduled that the 3<sup>rd</sup> batch study will be finalized by the end of this year.

With regard to the 2<sup>nd</sup> 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 2<sup>nd</sup> 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.

- 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 3<sup>rd</sup> 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

(論)

The DILG completed the exchange of MOAs with the 3<sup>rd</sup> 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  $1^{a}$  and  $2^{ad}$  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 2<sup>nd</sup> 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 4<sup>th</sup> batch study, the DILG will confirm the subject provinces including the model province through a MOA by May, 1999.

Appendix A

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## LIST OF ATTENDEES IN THE SERIES OF DISCUSSIONS

ATTENDEES

# DESIGNATION

Assistant Secretary Program Manager, WSS-PMO Chief, Planning Division, WSS-PMO PW4SP Project Officer, WSS-PMO

PIS, NEDA

Chairman, Advisory Committee Member, Advisory Committee

Team Leader/Water Supply Planning Water Supply/Sanitation Engineer Institutional Specialist Water Source Specialist Community Dev't/Gender Specialist Socio-Economic/financial Specialist Data Management Specialist

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Other Agencies
1. Ms. Christina Santiago
JICA Advisory Committee
1. Ms. Keiko Yamamoto

Mr. Benito R. Catindig

Mr. Rogelio B. Ocampo

Ms. Fe Crisilla M. Banluta

Ms. Ellen I. Pascua

- 2. Mr. Keiichi Kanaya
- D. JICA Study Team

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- 1. Mr. Masatoshi Momose
- 2. Mr. Nobuki Abe
- 3. Mr. Kenji Hiramatsu
- 4. Mr. Nobukatu Sakiyama
- 5. Ms. Consuelo B. Estepa
- 6 Ms. Elizabeth L. Versola
- 7 Mr. Emmanuel Patingo

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#### 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

- 1. Minimum programming skills
- 2. Friendly environment to users
- 3. Graphics presentation of data at user's
- option.
- Execution of data linkages at formula level entry
- 5. Guided formula creation using
  - function wizard

Disadvantage

- 1. Repeated entry of same formula
- 2. Sorting or indexing is done manually
- 3. All data are loaded in memory, which require
- huge amount of memory.
- 4. Limited to static data linkages

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.

o.			Description of Key Parameter	Unit	Values
. [			Supply		
	vel		Number of household to be served by Level I Facility	11H/Source	
	Service Level		Number of household to be served by Level II System	HILPublic Faucet	·····
	jče		Water Consumption Rate for Level III System	Liter/capita/day	
	2	Sanite			
	Ŵ		Std. number of student to be served by a unit of Sanitary toilet	Student/foilet	
			Standard number of toilets for a public utility	Toilet/Public Facility	
<u>t.</u>			Water Supply		
			UrbanWater Supply	% of Population	
			Rural Water Supply	% of Population	
			Sanitation		
		5	Household Toilet		
		a l	Urban Household Toiler	% of Household	
		E	Flush	% of Household	
		12	Pour Flush	% of Household	
		Medium Term Plan	VIP Latrine	% of Household	
	ł	=	Rural Household Toilet	% of Household	• • • • • • • • • •
	1	ا بچ ا	Flush	% of Household	· · · · · · · · · · · · · · · · · · ·
	۲.	``	Pour Flush	% of Household	
	ar		VIP Latrine	% of Household	
	Provincial Sector Target		School Toilet	% of Public Student	
	8		Public Toilet	% of Public Utility	
	X		Solid Waste	% of Population	
	l e	i	Water Supply		
	Ę		UrbanWater Supply	% of Population	
	é		Rural Water Supply	% of Population	
	a a		Sanitation Household Toilet		
		ъ.	Urban Household Toilet	% of Household	
	1	Long Term Plan	Flush	% of Household	
		1	Pour Flush	% of Household	· .
		۴,	VIP Latrine	% of Household	
		ŝ	Rural Household Toilei	% of Household	
		Ă	Flush	% of Household	
		1	Pour Flush	% of Household	,
	1		VIP Latrine	% of Household	
	ł		School Toilet	% of Public Student	
			Public Toilet	% of Public Utility	
	Į	l'	Urban Sewerage	% of Urban Population	
ļ	Percen	tage o	f Level I Deep Wells to be Rehabilitated	%	
4.	Percen	tage o	Sector Management Cost to Construction Cost		<u>-</u>
	I .	Feas	bility and Detail Design	% of Construction Cost	· · · ·
			truction Supervision	% of Construction Cost	
5.	Comm		Development and Training Cost		
	1	Leve		% of Construction Cost	
	<u>                                     </u>		11, 11 and Public Toilet	% of Construction Cost	
6.	I.		HII System (Operating Cost)	Pesos/HH/year	
	E.		1111 System (Spore Parts/Equipment)	% of Construction Cost	
	Recurrent Cost		111 System (Spare Parts/Equipment)	Pesos/HH/year	
•	150		I I System (Spare Parts/Equipment)	Pesos/HH/year	
	~		ic School Toilet Maintenance Cost	Pesos/Toilet/year	
	1		ic Utility Toilet Maintenance Cost	Pesos/Toilet/year	
7.	Alloca		ictors/Percentages of IRA		
			n Provincial	%	
	1		n Municipality and Brgy.	%	
8.	Fundi		els/Percenatges for Different Financing Scenarios		
	1 .		icenario	% Funding Available	· ·
	1	2nd	Scenario	% Funding Available	
		3rd s	Scenario	% Funding Available	
	1	4th S	Scenaria	% Funding Available	
	1	Seb 9	Scenario	% Funding Available	·

# Table 2.6.1 Key Parameter

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	Ι	Type Water	Proportion		Standard S			
Name of Municipality	Type	Source	(%)	Depth (m)	SWE (m)	Specific Capacity (liter/scc/m)		
	E	Shallow Well						
	Urban	Deep Well						
	2	Spring						
		Shallow Well						
	Rural	Deep Well						
	<u> </u>	Spring						
	al Urban	Shallow Well						
		Deep Well						
		Spring						
- -		Shallow Well	. <u></u> .					
	Rural	Deep Well						
	<u></u>	Spring						
	5	Shallow Well				· · · · · · · · · · · · · · · · · · ·		
	Urban	Deep Well				 		
		Spring						
	73	Shallow Well						
	Rural	Deep Well						
		Spring						
	ទួ	Shatlow Well		÷ .				
	Urban	Deep Well		-	1			
		Spring	· · · · · · · · · · · · · · · · · · ·					
	i,	Shallow Well			ļ			
	Rural	Deep Well		2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 -				
·		Spring						
	un de	Shallow Well						
1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -	Urban	Deep Well						
		Spring						
· · · · · · · · · · · · · · · · · · ·	Rural	Shallow Well						
		Deep Well						
	<b> </b>	Spring						
	E.	Shatlow Well			+	· · · · · · · · · · · · · · · · · · ·		
	Urban	Deep Well	· · · · · ·					
	Rural	Spring						
		Shallow Well						
		Deep Well						
		Spring						
	Urban	Shallow Well	1 1. 1	_ <b>_</b>				
		Deep Well			- Contribution			
		Spring						
	Rural	Shallow Well	· · · · · · · · · · · · · · · · · · ·					
		Deep Well						
		Spring			1			
	nan	Shatlow Well			- <u>+</u>			
	Urban	Deep Well		Receiver				
	<u> </u>	Spring	· · · · · · · · · · · · · · · · · · ·					
	Rural	Shallow Well	ļ			-		
	. =	Deep Well	1	1	1 · · · ·			

Table 2.6.2 Composition of Well Sources and Specific Capacity

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Table 2.6.3 Annual Investment							
Sub-Sector	Component	1999	2000	2001	2002	2003	Total
Urban Water Supply	Level HI System Feasibility Study and Detail Design Construction & Supervision Community Development & Training						
Rural Water Supply	Level 1 Facility Detail Design Construction & Supervision Community Development & Training						
Rural Wa	Level II System Detail Design Construction & Supervision Community Development & Training						
Sanitation	Urban Househokt Toilet Rural Househokt Toilet Public School Toilet Public Toilet Disinfection of Level I Wells						
Sa	Detail Design Construction & Supervision Community Development & Training				· .		

# Table 2.6.4 Level I Safe & Unsafe Percentage

Name of Municipality	Safe (%)	Unsafe (%)		
		· · · · · · · · · · · · · · · · · · ·		
	:	•		
	<u></u>	· · · · · · · · · · · · · · · · · · ·		
		· · · · · · · · · · · · · · · · · · ·		
· · · · · · · · · · · · · · · · · · ·				
· · · ·		······		
Provincial Total				

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Table 2.6.5 Unit Construction Cost of Different Facilities

		Unit	Service Coverage	Coverage	Unit	Unit Cost
	Description	Construction Cost	Served	Served	Pesos/	Pesos/
		(Pesos)	Population	Household	Person	Household
	Water Supply					ľ
	Level III - New System					
	For 5000 Population					
	For 10000 Population					
	For 15000 Population					
	Level III - Expansion					
	For S000 Population			-		
	For 10000 Population					
	For 15000 Population					
	Level II					
	Level I and a subserver and					
	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					
:- 	<u> </u>					
	VIP / Dry set					
	School Toilet					
	Public Toilet					
	Urban Sewerage					

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

Score	Underserved and Unserved Population	$\Box$	Underserved and Population Unserved nserved Population by Level III Systems
	in Base Year	in Phase I	in Base Year
1.0	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	%>	<%>
0.8	< % < 40	< % <	<%<
0.6	< % < 30	> % >	< % <
0.4	< % < 20	v	< % <
0.2	% < 10	>%	> %
Weight Allocation Score		:	
(%)			

# Table 2.6.7 Scoring Factor for Municipal Comprehensive Investment Ranking

Score	Urban Water Supply	Urban Water Supply Rural Water Supply Urban Sanitation	Urban Sanitation	Rural Sanitation
1.0	N.A.	% >	%>	%>
0.8	N.A.	~%~	>%>	>%>
0.6	N.A.	< % <	< % <	>%>
0.4	N.A.	< % <	> % >	>%>
0.2	N.A.	> %	% <	<u>% &lt;</u>
Weight Allocation Score				
(%)		•		

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### 3. **PROVINCIAL PROFILE**

### 3.3 Socio-economic Conditions

### 3.3.1 Economic Activities and Family Income

		Ley	ite		Region	VIII
	Total Number	of Families	Annual	Income	Total	Annual
Income Class	Number	Share	Total (P '000.00)	Average (Pesos)	Number of Families	Income Average (Pesos)
Under 15,000         40,401         13         557,634           15,000 - 19,999         31,656         10         729,524           20,000 - 29,999         85,236         27         2,593,262	13,803	87,207	13,748			
	10	729,524	23,045	85,948	22,862	
20,000 - 29,999		27	2,593,262	30,425	180,372	30,065
30,000 - 39,999	63,040	20	2,695,388	42,757	137,133	42,930
40,000 - 59,999	58,123	18	3,539,274	60,892	120,101	62,345
60,000 - 99,999	27,619	9	3,069,988	111,157	58,068	112,830
100,000 - 249,999	14,665	5	2,825,521	192,970	23,431	232,048
250,000 and over	856	0	404,114	472,207	1,418	473,960

### Table 3.3.1 Distribution of Families by Income Class

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, 1994

			1		Class of V	Worker			
Major Industry Group	Housebold Population 15 years and Over Who Worked	Worked for Private Household (Domestic Services)	Worked for Private Business/ Enterprise/ Farm	Worked for Governmeat/ 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	254,527	560	65,159	382	107,893	19,930	3,945	55,945	713
Fishing	25,158	25	4,038	. 10	16,592	707	98	3,620	68
Mining and Quarrying	334	6	213	8	67	8	1	28	
Manufacturing	16,203	159	9,304	245	4,867	501	101	971	55
Electricity, Gas and Water	1,692	- 12	1,364	142	. 154	12	0	4	4
Construction	21,342	331	18,780	278	1,714	. 109	6	62	. 62
Trade	49,640	134	9,025	55	30,433	2,070	442	7,362	95
Services	132,777	32,730	38,386	42,222	15,668	1,497	279	1,700	305
Not Stated	896	20	402	. 32	104	15	4	68	251
Provincial Total	502,569	33,977	146,671	43,374	177,492	24,859	4.876	69,760	560

Source: 1995 NSO Socioeconomic and Demographic Characteristics

### 3.3.3 Education

•	Household		A	ge Group		
Highest Educational Attainment	Population 5 years Old and Over	Below 20	20 - 24	25 - 29	30 - 34	35 and Over
No Grade Completed	115,315	79,740	2,214	2,099	2,099	29,163
Pre-school	42,245	40,434	173	177	156	1,305
Elementary						
1st - 4th Grade	377,656	206,351	18,316	17,939	17,561	117,489
5th - 7th Grade	308,568	99,051	27,277	28,141	27,154	126,945
High School		a se i s				
Undergraduate	180,881	88,704	21,507	16,894	12,951	40,825
Graduate	96,033	18,419	18,515	15,913	12,465	30,721
Post Secondary						
Undergraduate	2,220	426	631	430	257	476
Graduate	10,836	716	2,962	2,483	1,725	2,950
College Undergraduate	65,772	15,207	15,759	8,991	7,511	18,304
Academic Degree Holder	70,230	456	9,769	12,536		
Post-Baccalaureate	3,463	13	152	310	401	2,587
Not Stated	13,048	8,404	744	555	527	2,818
Total	1,286,267	557,921	118,019	106,468	94,627	409,232

### Table 3.3.3 Household Population by Highest Educational Attainment

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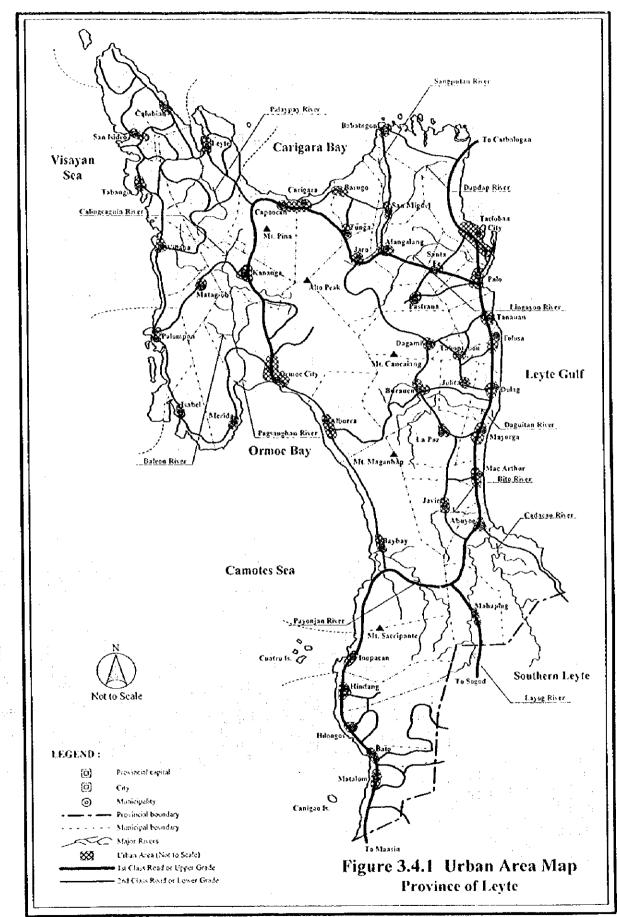
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Source: 1995 NSO Socioeconomic and Demographic Characteristics

### 3.4 Population

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### 3.4.1 Classification of Urban and Rural Area

### 3.5 Health Status

Health Facilities and	Le	yte	Philip	pines
Practitioners	Number	Ratio	Number	Ratio
Ilealth Facilities				
Hospital	17	1/83,003	1,700	1/40,206
Rural Health Units	48	1/29,397	2,335	1/29,272
Barangay Health Station	214	1/6,594	11,646	1/5,869
Practitioners				
Doctors	95	1/14,853	6,913	1/9,887
Nurses	150	1/9,407	8,849	1/7,724
Midwives	281	1/5,022	10,831	1/6,311
Dentists	38	1/37,133	1,895	1/36,068

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

Source: PSPT and 1997 Philippine Statistical Yearbook.

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### 3.6 Environmental Conditions

### 3.6.2 Water Pollution

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### Table 3.6.1 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
pll (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 mg/L	70 5.0	70 5.0	70 5.0	60 5.0	40 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	níl	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	- <b>- 1</b> 	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.

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					Leve	Level III Services	ces			
Name of	Name of Operating Body		Number of			Number of	-	9	Number of Population Served	
Municipality/City		Bar	Barangays Served	Tree		Duscious Served	TAM	Lirhan (	Rural	Total
		Uroan	Kurai	1 0140			200	102 /		1 507
Abuvog	Abuyog WD	9		9	506		CUX .	140.4		1607
Babathron	LGU - Babatingon	4		4	. 455		455	5,659	-	5,659
Barlion	Metro Carigara WD (c)	s	5	13 .	516	322	\$38	2,771]	1,752	4.523
Bato	Metro Hilongos WD (c)				147]		147	716	-	716
Bavhav		23	15	38	3.022	1.932	4,954	15.019	9,428	24,447
Buranen	LGU - Burauen WWS	6		-	2.041	202	2,243	11.777	1,165	12.942
Calubian	Calubian WD	1-1	11	12	09	656	716	297	3.182	3.479
Сарофсан	Metro Carigara WD (d)	2	ي.	6	129	322		614	1,610	2,224
Carigana	Metro Carreara WD (a)	· · · · ·	14	- 61 -	322	- 902	1,224	1.571	4.501	6,072
Dazami	Levte Metro WD (d)	1	8	- 6	. 25	645	670	126	3,150	3.276
Dulae	LGU - Dulag			. 1 .	. 51		51	253	:	253
Hilanoos	Metro Hilongos WD (a)	1	2	۰ ۲	182	95-7	1,238	1.472	4,795	6.267
Hindano	Metto Hilongos WD (b)	-	1		0.440	-	440	2213		2,213
cahel	Isabel WD	<b>6</b>	:- <b>S</b> :-	: 8: :	-239	S96	1,435	2,646	4,104	
into i	Jaro WD	4		4	139		687	3,428		3,428
avier (Bueho)	I.GU - Javier	2	E.	5	160	120	- 280	826	613	1,439
Kananya	LGU - Kananga WS			2	1,244	297	1,541	7,140	1.5	9,053
evre evre	LGU - Levter		<b>1</b>	- 2 -	137	4		785		807
Matae-oh	ILGU - Matag-ob-WS	6	4	- 2	LL -	- 292	369			1.821
Matalom	Matalom WS		3	.9	709	814	1.322	3,020	3.5	6.557
Merida	LGU - Merida			C 1	132	01	42			564
	Merida WD		-	5	468		500	1.863	145	2.008
	Municinal Total	2	~	4	600	42	642	2.391	181	2.572
Palo	Levte Metro WD (b).	1		11	3.429		3,429			17.659
Palomnon	Palompon WD	0	m	13	638	161	829	3,050	884	3.934
Распала	Levte Metro WD (c)	_	9	4	16	394	410		2,150	2.236
abontabon	Levte Metro WD (1)	_			38		38			188
acloban City (Capital)		- 72		72	17.044		17,044	:60		160.163
้อกลมอก		-	5	Q.	28	748	776		3,575	3,718
Tolosa	I evte Metro WD (2)	7	4	9	121	99	187	-	3.383	5.018
101	Metto Carioan WD (h)	4	5	7	258	261	154	1.638	151.1	2,792
Villaha	Hinahiivan si		-			1001	100		009	600
	Poh. Del Norte				175		521			929
•	Poh. Del Sur				150		150	671		671
	Municipal Total	C4			325	8	425	009.1	009	2,200
							and the second se	And and a second se		

Table 4.1.1 Details on Existing Level III Systems Sheet 1 of 4

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4.1.3

### 4. EXISTING FACILITIES AND SERVICE COVERAGE4.1 Water Supply

Level HI Systems

### Table 4.1.1 Details on Existing Level III Systems Sheet 2 of 4

Municipality(city         Number of Boarsebolds Sterred, Number of Boarsebolds Sterred, Number of Repations Sterred           Abuvogs         Abuvogs         Number of Boarsebolds Sterred, Number of Barnal, Tool, Barnal, Merco, Engensation, Steve, Micro, Sterred, Nume, Steve, Micro, Sterred, Number of Barnal, Steve, Micro, Sterred, Number of Barnal, Steve, Micro, Micro						P.C.	Level II Services	ices	- i.		
IndirvCity         Operating Body         Urban         Rural         Test         Upban         Rural         Upban         Rural         Upban         Rural         Upban         Solution	Name of	Name of	Numbe	r of Public	Faucets	Number o	I Housebo.	Ids Served		r Populatio	n served
n         Lubryes WD         Notwee WD         Notwe	Municipality/City	Operating Body	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
m         LCU - Batemen         2         10         53           Mattere Cargara WD (c)         Matteree Cargara WD (c)         Ma	Abuvos	Abuyog WD									
Memo Carigene WD (c)         Memo Carigene WD (c)           Metero Envisor WD (c)         Metero Envisor WD (c)           Baydray WD         Metero Envisor WD (c)           Metero Carigene WD (c)         Metero Carigene WD (c)           Metero Minorgen WD (c)         Metero Hilongen WD (c)           Metero Hilongen WD (c)         Metero Hilongen WD (c)           Matcher Wates         Metero WD (c)           Metero Metero WD (c)         A           Metero Metero WD (c)         A           Metero WD (c)	Babatngon	LGU - Babatingon	2		2		:	2			2
Metro Hilonese WD (c)         Metro Hilonese WD (c)           1. Boycaw WD         Boycaw WD           1. Boycaw WD         Colubian WD           1. Boycaw WD         Colubian WD           1. Metro Cangara WD (c)         Metro Cangara WD (c)           Metro Cangara WD (c)         Metro Cangara WD (c)           Metro Filoneses WD (c)         Metro Filoneses WD (c)           Metro Filoneses WD (c)         Logo Particle           Metro Filoneses WD (c)         Logo Particle           Metro Filoneses WD (c)         Logo Particle           Logo - Metro WD (c)         Logo Particle           Metro Filonese WD (c)         A           Metro Filonese WD (c)         A           Metro Filonese WD (c)         A           Metro Filonese WD (c)         Holenpen WD           Metro Filonese WD (c)         A           Metro Filone	Barugo	Metro Carigara WD (c)									
Baytery WD         Baytery WD           LG01         Lansater WWS           Cutubian WD         Memo Cangara WD (a)           Memo Cangara WD (a)         Memo Cangara WD (b)           Memo Filionges WD (b)         Memo Filionges WD (b)           Memo Filionges WD (b)         Memo Filionges WD (c)           Memo Filionges WD (b)         Memo Filionges WD (c)           Memo Filionges WD (c)         Memo Filionges WD (c)           Memo Filionges WD (c)         Memo Filionges WD (c)           Mathematical State         Log - Layre           LG0 - Layre         Mathematical State           Mathematical State         LG0 - Memo WD (c)           Memological Cost         A 4           Loyte Metro WD (c)         A           Memological Cost         Memological Cost           Memological Cost         S           Memological Cost         A 4           Leyte Metro WD (c)         A           Memological Cost         S           Memological Cost         S           Memological Cost         S           Mathematical State         S           Memological Cost         S           Memological Cost         S           Memological Cost         S	Bato	Metro Hilongos WD (c)									
LGU - Burauen WWS         L           Calabaar WD         Calabaar WD           Calabaar WD         Calabaar WD           Calabaar WD         Merro Cangara WD (a)           Leyte Metro WD (b)         Leyte Metro WD (b)           Metro Thiongas         Merro Thiongas           Metro Thiongas         Merro Hilonges WD (a)           Metro Hilonges WD (b)         Metro Hilonges WD (b)           Metro Hilonges WD (b)         Metro Hilonges WD (b)           Metro Hilonges WD (b)         Metro Hilonges WD (b)           LGU - Leyter Metro WD (b)         Metro Hilonges WS           Matalem WS         Matalem WS           LGU - Leyter Metro WD (b)         Metro Hilonges WS           Municipal Total         Metro WD (b)           Metro MD (c)         Leyter Metro WD (c)           Leyter Metro WD (c)         A           Leyter Metro WD (c)         S           Metro MD (c)         S           Metro MD (c)         A           Metro MD (c)         S           Metro MD (c)         A           Metro MD (c)         S           Metro MD (c)         A           Metro Metro WD (c)         S           Metro Metro WD (c)         S           Metro MD (c)	Bavbav	Baybay WD				;					
Calubrar WD         Calubrar WD         Calubrar WD         Columnation         Columnation <thcolumnation< th=""> <thcolumnation< th=""></thcolumnation<></thcolumnation<>	Rumara	LGU - Burauen WWS		-							
Metro Carigara WD (4)         Metro Carigara WD (4)           Metro Gargara WD (4)         Metro Sangara WD (4)           Metro Filongos WD (6)         LGU - Dulay           Metro Hilongos WD (6)         Metro Filongos WD (6)           Metro Hilongos WD (6)         LGU - Lavier           Matter Hilongos WD (6)         LGU - Matterson WD (6)           Jaro WD         LGU - Matterson WD (6)           LGU - Matterson WD (6)         LGU - Matterson WD (6)           LGU - Matterson WD (6)         LGU - Matterson WD (6)           LGU - Matterson WD (6)         LGU - Matterson WD (6)           LGU - Metro WD (6)         Levte Metro WD (6)           Municipal Total         Levte Metro WD (6)           Levte Metro WD (6)         A           Levte Metro WD (	Calubian	Calubian WD									
Werre Cangara WD (4)         Merre Cangara WD (4)         Merre Cangara WD (4)           Leyte Merro WD (0)         Leyte Merro WD (0)         Leyte Merro WD (1)           Merro Hilongos WD (1)         Leyte Merro WD (1)         Leyte Merro WD (1)           Jaro WD (1)         Leyte Merro WD (1)         Leyte Merro WD (1)           Jaro WD (1)         Leyte Merro WD (1)         Leyte Merro WD (1)           LGU - Leyte         Leyte Merro WD (1)         Leyte Merro WD (1)           Leyte Merro WD (1)         Leyte Merro WD (2)         Leyte Merro WD (2)           Merrida WD         Leyte Merro WD (2)         4         4           Leyte Merro WD (2)         Leyte Merro WD (2)         20         20           Merrida WD         Leyte Merro WD (2)         4         4         20           Merro WD (2)         S         20         100         1           Municipar Total         Municipar Total         30         150         100           Merrida WD         Leyte Merro WD (2)         4         4         20         100         1           Municipar Total         Polonper ND (2)         A         4         20         100         1           Polon Dei Nore         S         20         20         150         1<	Canoncan	Metro Cangara WD (d)					_	:			
Loyte Metro WD (d)         Loyte Metro WD (d)           LGU - Dulage WD (h)         Metro Hilonges WD (h)           Metro Hilonges WD (h)         Metro Hilonges WD (h)           Metro Hilonges WD (h)         Habel WD           LGU - Javier         LogU - Leyte           LGU - Margo WS         Habel WD           LGU - Mercia         Habel WD           Mercia WD         Habel WD           Mercia WD         Habel WD           Leyte Metro WD (c)         Habel WD           Mercia WD         Habel WD           Leyte Metro WD (c)         Habel WD           Municipal Total         Habel WD           Pob. Del Norte         S	Cariotra	Metro Cangara WD (a)	:						-		
LGU - Dulag.         LGU - Dulag.         Hero Hilongos WD (a)         Hero Hilongos WD (b)         Hero WD (c)         Hero WD (c) <td>Dami</td> <th>Levte Metro WD (d)</th> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Dami	Levte Metro WD (d)									
Metro Hilongos WD (a)         Metro Hilongos WD (b)         Metro Hilongos WD (b)           Netro Hilongos WD (b)         Netro Hilongos WD (b)         Netro Hilongos WD (b)           Usbel WD         LGU - Javier         Netro Hilongos WD (b)           Usbel WD         LGU - Javier         Netro Hilongos WD (b)           Nature Hilongos WD (b)         Nature Hilongos WD (b)         Netro Hilongos WD (b)           LGU - Levier         Matalon WU         Nature Hilongos WD (b)         Nature Hilongos WD (b)           Merida WD         Municipal Total         Nature Hilongos WD (b)         Nature Hilongos WD (b)         Nature Hilongos WD (b)           Municipal Total         Levie Metro WD (b)         Levie Metro WD (c)         Levie Metro WD (c)         Nature Hilongos WD (c)           Municipal Total         Levie Metro WD (c)         Levie Metro WD (c)         Nature Hilongos WD (c)         Nature Hilongos WD (c)           Municipal Total         Levie Metro WD (c)         Levie Metro WD (c)         Nature Hilongos WD (c)         Nature Hilongos WD (c)           Municipal Total         Levie Metro WD (c)         Levie Metro WD (c)         Levie Metro WD (c)         Nature Hilongos WD (c)	Dulac	I GII - Dulao					1.				
Metro Hilonges WD (b)         Metro Hilonges WD (b)         Metro Hilonges WD (b)           Javo WD         Javo WD         Javo WD           Javo WD         Javo WD         Javo WD           Javo WD         LGU - Leyte         Handalow           LGU - Leyte         Matalow WS         Handalow           LGU - Leyte         Matalow WS         Handalow           LGU - Metrida         Municipal Total         Handalow           Metrida WD         Municipal Total         Handow           Municipal Total         Handow         Handow           Leyte Metro WD (b)         Handow         Handow           Municipal Total         Handow         Handow           Leyte Metro WD (b)         Handow         Handow           Municipal Total         Handow         Handow           Leyte Metro WD (c)         Handow <td< td=""><td>L'UIAN</td><th>Metto Hilonons WD (a)</th><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	L'UIAN	Metto Hilonons WD (a)									
Isabel WD         Isabel WD           Jaro WD         Jaro WD           Jaro WD         LGU - Leyte Marga WS           LGU - Leyte Metro WS         Matalom WS           LGU - Marge-so WS         Matalom WS           LGU - Marge-so WS         Matalom WS           LGU - Marge-so WS         Matalom WS           Merida WD         Merida WD (e)           Leyte Metro WD (e)         4           Metro Carigan WD (e)         4           Metro Carigan WD (e)         2           Metro Carigan WD (e)         2           Metro Carigan WD (e)         4           Metro Carigan WD (e)         3           Metro Carigan WD (e)         2           Metro Carigan WD (e)         4           Metro Carigan WD (e)         3           Metro Carigan WD (e)         3           Metro Carigan WD (e)         4           Metro Carisu 7         3	UTHOUR VS	Metro Hilonoos WD (b)									
Jaro WD         Jaro WD <t< td=""><td>lienhol</td><th>Isabel WD</th><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	lienhol	Isabel WD									
ugb(b)         LGU - Javier         L <thl< th=""> <thl< th="">         L</thl<></thl<>	Taro										
I.GU - Kananga WS         I.GU - Kananga WS         I.GU - Leyte         I.GU - Menda         I.G	Tavier (Bucho)										
I.GU - Leyre         I.GU - Marageob WS         I.GU - Marage	Kananea	LGU - Kananga WS	•							·	
I.G.U Matageob WS         I.G.U Matageob WS         I.G.U Matalom WS <td>Levte</td> <th>LGU - Leyte</th> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Levte	LGU - Leyte									
Matalom WS         Matalom	Matae-ob	LGU - Matag-ob WS		1. 1. 1.		-				:	
LGU - Merida         Merida         Municipal         Icyte         Merida         Municipal	Matalom	Matalom WS									
Merida WD         Municipal Total         Municipal Total           I_Levre Metro WD (b)         I_Levre Metro WD (b)         I_Levre Metro WD (b)           No         I_Levre Metro WD (c)         I_Levre Metro WD (c)         I_Levre Metro WD (c)           No         I_Levre Metro WD (c)         I_Levre Metro WD (c)         I_Levre Metro WD (c)         I_Levre Metro WD (c)           N         I_Levre Metro WD (c)           N         I_Levre Metro WD (c)         I_Levre M	Menda	LGU - Merida				:			;		
Municipal Total         Municipal Total           Levte Metro WD         (b)           A         Levte Metro WD           Levte Metro WD         (c)           A         Levte Metro WD           Levte Metro WD         (c)           A         Levte Metro WD           A         Levte Metro WD           A         Levte Metro WD           A         Levte Metro WD           Metro Cangara WD         A           Metro Cargara WD         A           Pob. Del Norte         5           Pob. Del Norte         5           Pob. Del Norte         5           Provincial Total         9           Provincial Total         9		Merida WD					-				
I.Evte Metro WD (b)         I.Evte Metro WD (c)		Municipal Total	:		-	•					
on         Palompon WD         No           A         Levte Metro WD (f)         (a)           born         Levte Metro WD (f)         (b)           n City (Capital)         Levte Metro WD (c)         (b)           n City (Capital)         Levte Metro WD (c)         4         4           n City (Capital)         Levte Metro WD (c)         4         4         20           n City (Capital)         Levte Metro WD (c)         4         4         20         98           n City (Capital)         Levte Metro WD (c)         4         4         20         20         98           n City (Capital)         Levte Metro WD (c)         4         4         20         20         98           Pob. Del Norte         5         5         20         20         10         100           Provincial Total         7         7         7         30         150         1	Paio	Levte Metro WD (b)									
Image: constraint of the constrant of the constraint of the constraint of the constraint of the c	Palompon	Palompon WD									
Ibon         Leyte Metro WD (1)           n City (Capital)         Leyte Metro WD (2)           n         Leyte Metro WD (2)           N         Leyte Metro WD (2)           A         4           A         20           Prob. Del Norte         5           Pob. Del Norte         2           Provincial Total         7           Provincial Total         9	Pastrana	Leyte Metro WD (c)									
m City (Capital) Leyte Metro WD (a) <ul> <li>Leyte Metro WD (c)</li> <li>Leyte Metro WD (c)</li> <li>Leyte Metro WD (b)</li> <li>Metro Carigara WD (b)</li> <li>Metro Carigara WD (b)</li> <li>Pob. Del Norte</li> <li>S</li> <li>S</li> <li>Pob. Del Sur</li> <li>C</li> <li>Provincial Total</li> <li>S</li> <li>A0</li> <li>20</li> <li>30</li> <li>150</li> <li>33</li> <li>30</li> <li>30</li> <li>150</li> <li>33</li> <li>30</li> <li>150</li> <li>30</li> <li>150</li> <li>30</li> <li>150</li> <li>33</li> <li>30</li> <li>150</li> <li>30</li> <li>150</li> <li>33</li> <li>30</li> <li>30</li> <li>150</li> <li>31</li> <li>32</li> <li>33</li> <li>33</li></ul>	Tabontabon	Leyte Metro WD (f)									
ILevite Metro WD (c)         4         4         20         20         98           ILevite Metro WD (g)         Metro Carigara WD (b)         4         4         4         20         20         98           Metro Carigara WD (b)         Fob. Del Norte         5         5         20         20         100         1           Pob. Del Norte         2         2         2         10         10         50         10           Pob. Del Norte         2         2         30         30         10         50         1           Provincial Total         7         7         30         20         60         203         93         3	ity (Capit		1								
Leyte Metro WD (g)     4     4     20     20     96       Metro Carigara WD (b)     Metro Carigara WD (b)     1     1     1       Pob. Del Norte     5     5     20     10     10       Pob. Del Norte     2     2     10     10     50       Pob. Del Norte     2     2     2     10     10       Provincial Total     7     7     13     40     20     50     53	Tanauan	Levte Metro WD (c)									
Metro Carigara WD (b)         Metro Carigara WD (b)           Himabuyaa         5         5         20           Pob. Del Norce         2         2         10         100           Pob. Del Norce         2         2         30         100         50           Pob. Del Norce         2         2         30         10         50         50           Provincial Total         7         7         31         40         20         50         50	Tolosa	Leyte Metro WD (g)		4	4		50			%	
Himabuyan         5         5         20         100         50         100         50         50         100         50         50         100         50         50         100         50         700         50         100         50         700         70         700         70         700         700         150         700         <	Tunga	Metro Carigara WD (b)					-		-		
Pob. Del Norte         5         5         5         20         100         50         50         100         50         50         50         50         50         50         50         50         50         50         50         50         50         50         50         50         50         70         50         70         50         70         50         70         70         70         70         50         70         50         70 <th70< th="">         70         <th70< th="">         70         70</th70<></th70<>	Villaba	Hinabuyan		цэ Н							~~~
Pob. Del Sur         2         2         2         10         50         50         10         50         10         50         10         50         10         50         10         50         10         50         10         50         10         50         10         50         10         50         10         50         10         50         10         50         10         50         10         50         10         10         50         10         150         10		Pob. Del Norte	5		5	20	:	20	:	·	8
Municipal Total         7         7         7         30         150         50	-	Pob. Del Sur	2		77	0		0	:		20
incial Total · · · · · · · · · · · 9 · · · 4 · · 13 · · · 40 · 20 · · 60 · 203 · · 98 · · · ·		Municipal Total			7	30					04
	Provin	15	6	4	13	40	20		203	98	301

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Level III	
Existing	Chool 2 of 4
<b>Details on Existing</b>	10
Table 4.1.1	

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			Water Sources	X		Consur	Consumptions	
Name of	Name of	Type of		Production	Domestic	Institutional	Institutional Commercial	Industrial
Municipality/City	Operating Body	Water	Number	Capacity (cu.m/day)		(cu.m	(cu.m/day)	
		NN.	·	847			39	
Abuyog	Abuyog W.L			000				
Babatngon	LGU - Babatngon	1.5	-	277.1				
Barugo	Metro Carigara WD (c)			040				
Bato	Mcro Hilongos WD (c)	DW	_				264	
Pavhav	Bavbay WD	SP	- 2	8.539	668.2			
Burnien.	LGU - Burauen WWS	SP.	2	1,553				
John Marine Company	Calubian WD							
diupidi	Metho Carleara WD (d)							
apuocan	Memo Cangara WD (a)	Surf	·	000'01	1,448	65	80	
al 18414	I evic Metho-WD (d)				• :			
Dagarn	1 Ci I - Dulae	DW	1	1.296			12	
Seinc	Memor Hildmone WD (a)	MC	M	1,584				
HIONGOS	Metro Hilongos WD (b)							
Tingang	Icebel WD	MC	-	432	1,000			
12:10:0	Isro WD	DW	1	864	t - 15	2	2 2	-
Jaro	TOI - lovier	d'S	2	2.419	- 0			
avier (Eugno)	If CIL Kananga WS				535	5	1 23	
Nanangu		- dS		33	10		_	
_cvtc	1.01 - Mana-oh WS			:				·
Viatag-00	Manian WS	SP		1,633	3 1,380	0	254	
Matajom	AVIALITIO III			27				
Menda				111		17		
	Menda w U		- [;	322		2		:
	Municipal I otal		,					
Palo	Levie Metro WD (b)		¢	130		0		
Palompon	Palompon WD	DW/SP	7					
Pastrana	Levic Metro WD (c)							
Tabontabon	Leyte Metro WD (f)	-					085 0 0	1347
Tacloban City (Capit	helphan City (Capital) Levie Metro WD (2)	Sur	13	956.62	0 15.67	-		
Tanauan	Levte Metro WD (c)		1					-
Talaca	Levie Metro WD (g)							
Turker	Metro Carigara WD (b)					-		
1.000 m	Hindhilvan		1	•	60  1	15		
	Pol- Del Norte	dS		\$	60	16		
	Pab Del Sur	d/S		0	69	15		
	Municipal Total		~	<u>51</u>	98 4	46		
	Duration Total		28	58.920	68712 0	9 1.504	4 3.264	4 1.5
			1					

III Systems Sheet 3 of 4

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

							:		Consumers						
		Domos	Domestic Hause Connections	nnections	Dom	<b>Domestic Public Faucet</b>	Faucet	Insci	Institutional Consumers	sumers	Com	Commercial Consumers	vumers	Industrial	Consumers
Name of	Name of	Conne	Connection	Consumption	Conn	Connection	Consumption	Ľ	Connection	Consumption	Conn	Connection	Consumption	Connection	Ŭ
Municipality/City	Operating Douy	Metered	Unmetered	(m <sup>1</sup> /day)	Metered	Metered Unmetered	(m'/day)	Meterod	Meterod Uninetered	(wy/ay)	Metered	Metered Unmetered	(m <sup>7</sup> /day)	Metered Unmetered	tered (M <sup>2</sup> /day)
I	A human WD	015		11.74							22		39.38		
	ADUVOS W D		4.550			. 2			8			71			-
uo									1.011					100 100	-
0	Motro Cangara w.z. (c)												Ī		
Bato	Metro Hilongos WD (C)			00000				F		111.00	275		264.00	-	
Baybay	Baybay WD	4,699		7.859.00				4		20111					-
	LGU - Burauen WWS	2,243													
	Calubian WD		•												
E	Metro Cangara WD (d)												~	-	-
	Metro Canitari WD (a)	2,863		1,431.50	16		16.12	0		64.X0	107		C7.0X		
	Levie Memo WD (d)														-
	it.GU - Dulae					-					2		01.21		-
ž	Memo Hilongos WD (a)							:			Į	-			
	Metro Hilongos WD (b)														_
	Isshet WD	1,392		1,000.000		1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.							Í		-
	Iam WD	685		~ 12.00			1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	9		2.00	: 35	:	8		
e (Bueho)	I GU - Javier		\$			20			5			10	-		
	LGU - Kananga WS	709	9	529	1	1. N. N.	Ŷ	4			5		2		
I PUTO	LGU - Levte		132					Ś			:	-			-
Maratech	I GU - Matae-ob WS			•	1 · ·	·									
	Maraham WS			1,380.00							14		254.00		-
Matalon	i GI - Menda		1,030	;										-	
	Menda WD	. 490		17.00											
	Municipal Total	1 490	1,030	17.00									;		
Palo	Levie Metro WD (b)	1944 - 1944 - 1944 - 1944 - 1944 - 1944 - 1944 - 1944 - 1944 - 1944 - 1944 - 1944 - 1944 - 1944 - 1944 - 1944 -													
noon	Patompon WD	847		1.00	2		8.00			8					
	Levie Metro WD (c)				1.										
aboutabon	Levie Metro WD (f)		1911 - 1911 - 1911 - 1911 - 1911 - 1911 - 1911 - 1911 - 1911 - 1911 - 1911 - 1911 - 1911 - 1911 - 1911 - 1911 -										00 V 00 V 0	35	00 L 7 C 1
Ity (Capital)	Leyte Metro WD (a)	18.768	1 2 2	12,996.00	2		276.00			1.323.00	2141		10. Yaci-	01	
neuenu	Levte Memo WD (c)								:	T					
Tolosa	Leyte Metro WD (g)												ľ		
	Metro Cangara WD (b)												Í		
	Hinabuyan	001	301			1.	1	102107						-   .	
	Pob. Del Norte-	175	10	00.91		5				:		-1			-
	Pob. Del Sur	05	150			2		1		ملاحة الالا	1		:		-
	Municipal Totat	325	461	46.00	A TRUE TO THE	7		1.1212.121				1			

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						Exis	<b>Existing Facilities</b>	es	
Name of			Water Source	rce	Length of	Rese	Reservoir	Length of	Number
Municipality/City	Name of Operating Body	Type	Number	Discharge (m <sup>3</sup> /dav)	Transmission Line (meter)	Number	Volume (m <sup>3</sup> )	Distribution Line (meter)	of Public Faucets
ΔΒιινοσ	Alanooilan WS	SP				2			4
Solution	Bagacav WS	dS				2			9
	Balinsasavao WS	SP		-		5			1
	Bavabas WS	SP				<b>6</b>			8
	Buava WS	dS				7			10
	Bulak WS	SP				-1			8
	Burubud-an WS	SP				1			1
-	Dingle WS	SP				1			9
	Kikilo WS	SP				ŝ			10
	Lawaan WS	SP				1			9
•	Libertad WS	SP				3			9
	Magaguicav WS	SP				61			4
	Matagnao WS	SP				-1			5
	New Taligue WS	SP				1			6
	Old Taligue WS	SP				1			S
•	Parasanon WS	SP				2			9
	Pilar WS	SP				1			4
	Pinamanagan WS	SP							2
	San Francisco WS	SP				1			~
	San Roque WS	SP							8
	Tadoc WS	SP				1			() ()
	Tinocolan WS	SP					1		*†
	Tuv-a WS	SP				1			10
	Municipal Total	SP							162
Albuera	Dona Maria	SP	1	74.9	3,000	ŝ	23.3	2.000	<u>;</u>
	Lawis Baluco BWSA	DW	ł	5.5	100	1	. 4.5	550	4

4.1.4 Level II Systems

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2 5 ¢, 15 of Public Number Faucets 10.755 500 310 <u>388</u> 2.000 3,475 2.000 500 5.360 8 20 Distribution Line (meter) Length of **Existing Facilities** 20.0 37.9 28.5 5.6 129.8 2.3 2.3 5.0 7.2 8.3 10.0 7.0 17.4 2.3 70.4 20.0 2.0 0.1 25.0 Volume (**n**) Reservoir Number 5 Ś ŝ C) 2.000 9,648 2,000 2,000 1,000 8,200 500 400 2.000 38 2,000 800 300 1.500 800 940 4 S 2 001 1.500 120 20 Transmission Line (meter) Length of 35.0 12.5 32.7 27.3 20.0 64.0 136.3 163.5 21.0 81.8 81.8 0.60 <u>54.5</u> 791.9 43.2 20.0 2.0 10.0 5.0 5.0 22.0 1.161 Discharge (m<sup>3</sup>/day) Water Source Number 2/5 3/8 4 DW/SP DW/SP Type ΝQ 5 SP DW SP MQ 63 63 63 63 SP SP SP S. SP P. SP SP Name of Operating Body Municipal Total Sitio Soob, Poblacion **Municipal Total Municipal Total** 'illa Magsaysay WS Bagong Silang WS Mahayhay BWSA Magcasuang WS Pagsulhugon WS Valibago WS San Ricardo WS San Isidro WS Jaga-asan WS Poblacion WS NS II WS Victory WS Sherwood aguite WS San Roque Mahayag Balud Bukid Duka Municipality/City Name of Babatugon Albuera Barugo

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						Exis	Existing Facilities	cs	
			Water Source	rce		Rese	Reservoir		
Name of Municipality/City	Name of Operating Body	Type	Number	Discharge	Length of Transmission Tine (meter)	Number	Volume	Length of Distribution Line (meter)	Number of Public Faucets
			: :	(uu /uay)			( m)		
Bato	Dolho BWSA	DW	- <mark></mark> -	11.0		- 1	3.9	081	C
	Himamaa BWSA	SP	· 1	20.0		7	16.0	. 1.750	
	Iniguihan BWSA	DW-	1	11.0		-	10.3	860	6
	Mabini	SP	<b>p4</b>	10.0	600	1	3.3	100	6
	Plandel BWSA	SP	Į	32.0	2,000	:: <b>2</b>	16.0		ίΩ.
	Rivilla WS	SP	1	11.0	1.500	1	8.0		
	Municipal Total	DW/SP	2/4	95.0	4,100	8	57.5	2.890	25
Bavhav	Ambacan WS	SP	1	43.2	008 800	1	15.0	500	3
	Balao WS	SP	1	28.5	2,000	1	10.0	500	m
	Banahao WS	SP :		43.2	2,200	2	24.0	1,000	9
	Bidlinan WS	SP	1	6.61	1,800		11.3	700	4
	Bitanhuan WS	SP	1	86.4	1.0	3	29.1	3.000	8
	Bubon WS	SP	ŀ	21.6	10	i 3	36.S	20	Ś
-	Buenavista WS	SP		28.5	1,600	2	15.0	1.000	
	Bunga WS	SP	-	86.4	1.500	- 2	24.8	1.200	10
<u>.</u>	Butigan WS	SP		14.7	10	· 1	12.5	1.000	
•	Caridad WS	SP		129.6	2.300	3 	30.0	5.100	
	Ciabo & Malcinhas WS	SP	Ţ	259.2	1	2	29.8	2.000	24
: :	Guadalupe WS	SP		14.7	500	1	7.2	800	4
	Gubane WS	SP		S6.4	200	2	27.2	2.000	6
:	Higuloan WS	SP		21.6	1,000	2	12.0	800	m
	Hilapnitan WS	SP		43.2		1	21.2	500	ŝ
	Igang WS	SP		86.4	2,000	1	9.0	1.200	t,
- - - -	Kabalasan WS.	SP	1	14.7	1.200	. 1 .	0.6	1.000	Ś

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						Exis	Existing Facilities	es	
			Water Source	rce		Rese	Reservoir		
Name of Municipality/City	Name of Operating Body	Type	Number	Discharge (m <sup>3</sup> /day)	Length of Transmission Line (meter)	Number	Volume (m <sup>3</sup> )	Length of Distribution Line (meter)	Number of Public Faucets
Bavbav	Kabatuan WS	SP		4.9	2,500		12.5	500	
	Kabungaan WS	SP	1	65.3	1,000	<b>F-1</b>	12.3	606	161
	Kagumay WS	SP	1	14,7	1.500		10.8	800	
	Kambonggan & Makinhas	Ъ		86.4	3.000			2,000	10
•		ďS	-	14.7	1.500	1	10.8	700	ń
· · · · · · · · · · · · · · · · · · ·	Maganhan WS	SP	1	14.7	2.500		9.0	1.000	4
	Mahavahav WS	SP	1	43.2	1.500	1	15.0	. 1,000	. 9
	Mailhi WS	SP	1	14.7	1,000	2	14.7	1.000	9
	Maitum WS	SP		129.6	1.000		17.6	300	3
- - -	Mapcap WS	SP		43.2	1,500		22.0	1,000	S
	Marcos WS	SP		326.6	554	1	18.0	300	
	Maslug WS	SP		64.8	2,000	1	21.2	1,500	10
	Matam-is WS	SP	-1	14.7	3,400	1	7.0	800	
	Mavbog WS	SP	1	86.4	2,200	2	15.0	2,000	26
:	Mavpatac WS	SP		43.2	3,500	Tay 2 -	17.0	1.000	S
<u> </u>	Monte Verde WS	SP		14.7	1,500	1	7.2	1,000	
	Pangasugan WS	SP		86.4	800	<b>1</b>	21.2	3,000	516
	Pansagan WS	SP	1	108.9	4,000	2	50.1	-09 	<b>V</b>
	Patag WS	SP	1	43.2	1,000	1	10.8	500	-
	Plaridel WS	SP	1	172.8	3,600	2	35.2	4,000	5
	Pomponan WS	SP	1	43.2	1,300	. 3	16.2	2.500	20
	Punta WS	SP.		21.6	1,500	- <b>1</b> -	9.0	1,000	
	Sabang WS	SP		86.4	400	2	22.0	500	16
	San Agustin WS	SP	-	43.2	1.800	1	14.8	800	<b>*‡</b>

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Sheet 1 of 6

101 1.232  $\bar{o}$ Ö Q ō Number of Public Faucets 10 <u>4010</u> 53.686 200 800 350 400 9.8771 <del>8</del> 8 00 100 800 .800 800 7.002 430 395 300 350 .000 1.700 Distribution Line (meter) Length of **Existing Facilities** 4.5 81.0 697.0 9.0 23.6 757.9 2.3 7.8 8.2 3.4 6.0 5.4 4.5 12.0 12.0 216.0 400.0 12.0 3.2 53.5 41 3.1 Volume Ê Reservoir Number 3  $\overline{O}$ 400 00 70.574 6,102 200 200 10.362 5,000 7,800 300 17002200 710 1.500 1.500 1,100 460 400 1,200 600 2.800 401 Transmission Line (meter) Length of 1,553.4 24.6 12.0 6.0 16.2 216.0 200.0 400.0 400.0 216.0 14.7 21.6 9.4 8.0 12.0 18.1 17.3 .659.7 2.669.1 Discharge (m<sup>3</sup>/day) Water Source Number 2/8 4 1 d C-1 SP DW/SP: DW/SP Type DW ≷Q ΝQ 2 2 2 2 X ΜQ ΔW DW રુ ઝ DW \*\*\*\* S 33 B Calipayan & Rizal BWSA Guinarona WS Name of Operating Body Municipal Total Libo & San Isidro WS **Municipal Total** Municipal Total Municipal Total Municipal Total Villa Solidaridad WS Cantandog I BWSA Matapay BWSA Naval BWSA Himo-aw BWSA Kawayanan WS Caroyocan WS San Juan WS Casiogan WS Zacarito WS Burauen WS Herrera WS JI-og WS Limite WS Paula WS Iubay WS Bislig Municipality/City Name of Carigara Hilongos Calubian Burauen Dagami Baybay

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						Exi	<b>Existing Facilities</b>	es	
			Water Source	rce		Rese	Reservoir		
Name of Municipality/City	Name of Operating Body	Type	Number	Discharge (m <sup>3</sup> /day)	Length of Transmission Line (meter)	Number	Volume (m <sup>3</sup> )	Length of Distribution Line (meter)	Number of Public Faucets
Trindono	Anoion BWSA	SP	1	50.0	300	1	16.0	15	0
זיזיזיזעוואמיווצ	Rontoc WS	SP		100.0	400	4	20.0	200	1 S
•	Camidlosan BWSA	SP		50.0	350			10	C1
	Himacijoo BWSA	dS	1	65.0	500	1	9.0	10	
-	San Vicente BWSA	SP	1	60.09				450	
	Tachibi BWSA	SP		80.0		-		185	2
	Municipal Total	<del>g</del>	9	405.0	1,600	. 6	45.0	870	43
ไทกกลุ่วสา	Cabulisan WS	SP							2
	Caminto WS	SP							
	Can-angay	SP							
	Caulisihan	SP	:						Ŷ
	De los Santos	dS							m
• • • • •	Guadalune	сs		-					10
:	Hinabay	SP							
	Jubasan	SP							
	Maljo	SP			-				
	Marao WS	SP							15
- -	Tahud WS	SP							2
	Municipal Total	SP							06
[aro	Biaz-Zabala	SP	-	33.0	205	1	8.0		4
<u>,</u>	Burabod WS	SP	~	31.0	800	. 2	3.4	250	S
	Daro WS	SP	1	230.0	1,500	- 2	S.S	006	21
	Hibunawon WS	SP	1	38.5	220	7	8.0	120	
	Macanip WS	SP	-	25.0	120	. 1 .	6.0	200	5

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				-			<b>EXISTING FACILITIES</b>	8	
			Water Source	rce		Rese	Reservoir		
Name of Municipality/City	Name of Operating Body	Type	Number	Discharge (m <sup>3</sup> /day)	Length of Transmission Line (meter)	Number	Volume (m <sup>3</sup> )	Length of Distribution Line (meter)	Number of Public Faucets
lavo.	Piraon WS	SP		20.0	40	Ĭ	20.0	220	4
	Rubas WS	SP		40.0	006	5	6.0	700	5
-	San Agustin WS	SP		39.0	800			150	S
	Sari-sari WS	SP		35.0	450			200	Ω.
	Tinambacan WS	SP		120.0	2,000	2	8.5	800	9
	Uguiao WS	SP	1	120.0	1,500				4
	Villa Consuelo WS	SP		80.0	300	1	8.0	150	3
:	Municipal Total	SP	12	811.5	8,835	14	76.7	3.690	58
Invier (Bucho)	A. Bonifacio BWSA	SP		-	20			200	. 5
101101 (m. 1011)	Binulho BWSA	SP			4,200	7	185.0	1,400	30
	Carave	SP			1,500		6.1	. 800	10
	Comatin BWSA	SP			1,400	1	6.1	1.100	11
	Gundapunan BWSA	SP			650	1	6.1	200	4
	Malitbozav	SP			1.500		6.1	600	7
	Manarus	SP			2,600	1	9.5	006	10
	Manlilisid BWSA	SP	1	432.0	2.500	1	4.1	950	15
	Odiong BWSA	SP	1		1,000	1	10.9	S00	2
	Pinocawan BWSA	SP.			50			300	-1
	San Sotero BWSA	SP	1		006	1	22.7	600	4
•	Talisayan	DW	•	600.0	200	<b></b> 4	9.5	500	Š
	Ulhav BWSA	SP			1,800	I	10.9	1,000	9
	Zone 1	MQ			25			200	5
	Municipal Total	DW/SP	1/3	1,032.0	18,345	12	277.0	9.550	<u>च</u>
Kananga	Aguiting	SP	- 4 -	30.0	2.500			1.500	-1
	Hiluctogan	SP		30.0	2,000			2.000	8

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ر لیدهم میں میں میں معامل میں والنا میں میں اور انداز میں معامل میں میں اور انداز میں میں میں میں میں میں میں م مراجع						Exis	Existing Facilities	es	
	. :		Water Source	LCe		Rese	Reservoir		
Name of Municipality/City	Name of Operating Body	Type	Number	Discharge (m <sup>3</sup> /day)	Length of Transmission Line (meter)	Number	Volume (m <sup>3</sup> )	Length of Distribution Distribution Line (meter)	Number of Public Faucets
								003	ſ
lKananøa.	Libertad	SP		30.0	1.500		0.4		
	Lonov	SP	1	30.0	2,000	*-4	4.5	002	
	Masaravao	SP	1	30.0	2,500			008	
	Rizal	SP	Ĩ	45.0	2,500			1.300	0
	San Isidro	SP	1	30.0	2,000				
· · · · · · · · · · · · · · · · · · ·	Municipal Total	SP	7	225.0	15,000	~	0.6	6,600	
T ^ Daz	Miin WS	đS	<b>F</b> _4	5.0					500
Turte	Bachao RWSA	SP SP	1	86.4	1,000	- 1	8.0	250	
inch ic	Baco WWS	SP	1	69.1	600	1	8.0		
	Bashd WWS	SP		103.7	1,200	-1	16.6	100	
	Culasi WWS	SP	1	86.4	1,200	2		350	S I
	Kawavan WWS	SP	-1	86.4	1,000	3	17.5		
	I ihas WWS	SP		69.1	700	1	3.4	75	
	Maanda WWS	SP		86.4	1,300	1	1.5	100	
	Palarao RWA	SP	-	129.6	2,100	-	8.0	200	
	PalidI	SP	1	86.4	1,500	1	6.0	150	
:	Parasan WWS	SP	1	69.1	. 600		1.0		5
	Saloe WWS	SP SP		43.2	600	<b>-</b> -4	2.3		7
	Tapol BWSA	ß		86.4	1.000		8.0		
	Tiobawan WWS	SP		43.2	1,000		1.0	200	
-	Tinocdogan WWS	SP		69.1	1.200		16.0	100	
	Toctoc WWS	SP	· [ .	86.4	1,000		16.0	200	
	Municipal Total	SP	16	1,206.0	16,000	. 19	120.1	1.725	0%0
						:			

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						EXIS	<b>EXISTING</b> Facultics	<u>C</u>	
			Water Source	rce		Rese	Reservoir		
Name of Municipality/City	Name of Operating Body	Type	Number	Discharge (m <sup>3</sup> /day)	Length of Transmission Line (meter)	Number	Volume (m <sup>3</sup> )	Length of Distribution Line (meter)	Number of Public Faucets
1100 A velocity	Casuntinoan & Tinawan	SP						1,500	5
	Danao	SP	-1		200			150	C1
	San Antonio & Sta. Isabel	SP	-1						5
	Municipal Total	SP	m		200			1.650	12
Mahanlae	Himamara WS	SP			1.500		15.0	280	11
	San Isidro WS	MQ					8.0		0
	Municipal Total	DW/SP	- 1/1 -		1.500	3	23.0	280	17
Mator-oh	Balactas WS	dS		28.5	1,800	2	12.0	250	8
	Bonov WS	SP		136.3	800	2	10.9		15
	Bulat WS	SP		109.0	200			100	61
	Cambadhad WS	SP		49.1	400	1	3.4	150	3
	Candelaria.	dS		136.3	800		3.4	350	8
	Cansoso WS	dS		122.7	650	2	8.0	500	4
	Tmelda WS	d		28.5	2.050	7	14.0	400	S
	Malazarte WS	SP		95.0	086	2	6.8		5.
	Mansalin WS	ďS	,	87.2	1,200	1	5.8	300	(L)
	Masaba WS	SP		87.2	006	1	3.4		77
	Naulavan WS	SP		119.9	1.500	1	3.4	150	4
	San Dionesio WS	dS.		87.2	600		S.0	150	4
: .	San Marceline WS	đ		136.3	450		5.8	300	ŝ
	San Vicente WS	dS dS		163.6	650	cı	12.0	300	20
	Sta Rosa WS	dS		65.4	700	61	11.4	250	<u>र</u> ा - न
:	Sto. Rosario WS	SP		28.5	1.950		25.3	400	10
	Municinal Total	dV	16	1 480.8	15.630	i.	133.6	3.730	マ 

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Concession of the

Name of Municipality/City     Name of Operating Body       Municipality/City     Name of Operating Body       Marialoun     Cahagmaan BWSA       Monte Alegre     SP       Mayorga     BWSA       Sta, Fe WS     SP       Mayorga     WSA       San Isidro     Buenavista WS       San Isidro     Caraz WS       San Isidro     Caphitaan WS       San Isidro     Caphitaan WS       San Isidro     Caphitaan WS       San Juan WS     SP       Tanauan     Gabalisara BWSA       Municipal Total     SP       Municipal Total     SP       Tanauan     Ada BWSA       Abilao     DW       Sta, Elena     DW       Municipal Total     DW       Municipal Total     DW       Municipal Suba I     SP       Municipal Yotal     DW       San Juan WS     SP       Municipal Yotal     DW       Municipal Yotal     DW       Municipal Yotal     DW       Municipal Yotal     DW       Municibaa								Exis	Existing Facilities	es	
Name of Name of nicipality/City n Cahagnaan BWSA SP Cangganay BWSA SP Monte Alegre Alegre Alegre Alegre	-				Water Source	rce		Rese	Reservoir		
n     Cahagnaan BWSA     SP       n     Cahagnaan BWSA     SP       Canggaaay BWSA     SP       Canggaaay BWSA     SP       Monte Alegre     SP       Monte Alegre     SP       Monte Alegre     SP       Sta, Fe WS     SP       Sto, Niño BWSA     SP       Mayorga BWSA     SP       on     Mayorga BWSA     SP       n     Mayorga BWSA     SP       con     Municipal Total     SP       fro     Caduhaan WS     SP       fro     Canyan WS     SP       m< Capifahan WS     SP       m< City (Capital)     Taclobaan City     DW       n     Cabualisara BWSA     DW       Mahulod BWSA     DW     SP       Municipal Total     SP       Manulod BWSA     DW       Sta. Elena     DW       Municipal Total     DW       Sta. Elena     DW       Municipal Total     SP       Manulod BWSA     DW       Sta. Elena     DW       Sta. Elena     DW       Sta. Elena     DW       Staburgaan, Silad & Suba I     SP       Caburgaan, Silad & Suba I     SP <th></th> <th>Name of</th> <th></th> <th></th> <th>1</th> <th>Discharge</th> <th>Length of Transmission</th> <th></th> <th>Volume</th> <th>Length of Distribution</th> <th>Number of Public</th>		Name of			1	Discharge	Length of Transmission		Volume	Length of Distribution	Number of Public
n Cahagmaan BWSA SP Cangganay BWSA SP Cangganay BWSA SP Monte Alegre SP Sta. Fe WS Sto. Niño BWSA SP Sto. Niño BWSA SP Sto. Niño BWSA SP Municipal Total SP Municipal Total SP Cruz WS SP Cruz WS SP Cruz WS SP Cruz WS SP Municipal Total SP Municipal Total SP Mahulod BWSA DW Sta. Elena City DW Sta. Elena Municipal Total SP Mahulod BWSA DW Sta. Elena DW Sta. Elena SPWSA SP Mathulod BWSA SVba SP Cabungaan, Silad & Suba B	:			Type		(m <sup>3</sup> /day)	Line (meter)	Number	(m <sup>3</sup> )	Line (meter)	Faucets
Cangganay BWSA     SP       Monte Alegre     SP       Monte Alegre     SP       Mayorga     Sto. Niño BWSA     SP       Mayorga     Mayorga BWSA     SP       Mayorga     Buenavista WS     SP       San Isidro     Buenavista WS     SP       San Isidro     Carz WS     SP       Santa Fe     San Juan WS     SP       Santa Fe     San Juan WS     SP       Tanauan     Ada BWSA     DW       Tanauan     Ada BWSA     DW       Tanauan     Sta. Elena     DW       Villaba     Abijao     Sta. Elena     DW       Villaba     Abijao     SP     SP       Municipal Toral     DW     SP     SP       Villaba     Abijao     SP     SP       Municipal BWSA     SP     SP       Municipal WSA     SP     SP       Sta. Elena     DW     SP       Sta. Elena     DW     SP       Sangeal BWSA     SP     SP		Maralan	Cahamaan BWSA	SP	1	20.3	120	3	25.5	2,000	15
Monte Alegre     SP       Sta. Fe WS     Sra. Fe WS       Sta. Fe WS     Sro. Niño BWSA       Stro. Niño BWSA     SP       Mayorga     BWSA       Mayorga     BWSA       Palompon     Buenavista WS       San Isidro     Buenavista WS       Santa Fe     San Isidro       Santa Fe     San Juan WS       Santa Fe     Municipal Total       Santa Fe     San Juan WS       Santa Fe     Mun. Government:       DW     DW       Tabango     Mun. Government:       Tanauan     Ada BWSA       Tanauan     Sta. Elena       Villaba     Sta. Elena       Wunicipal Total     SP       Municipal BWSA     DW       Villaba     Bangcal BWSA       Villaba     Bangcal BWSA			Cangganay BWSA	SP			5	1	3.8	100	
Sta. Fe WS     Sto. Niño BWSA     SP       Mayorga     Sto. Niño BWSA     SP       Mayorga     Mayorga BWSA     DW       Mayorga     Bwsa     DW       Mayorga     Bwsa     DW       Palompon     Buenavista WS     SP       Caduhaan WS     SP     DW       San Isidro     Capiñahan WS     SP       Santa Fe     Municipal Total     SP       Tabango     Mun. Government:     DW       Tanauan     Ada BWSA     DW       Mahulod BWSA     DW       Villaba     Bangeal BWSA     DW       Villaba     Bangeal BWSA     SP			Monte Alegre	SP	1	60.5	250		3.5	120	10
Sto. Niño BWSA     SP       Mayorga     Municipal Total     SP       Mayorga     BwSA     DW       Palompon     Buenavista WS     SP       Palompon     Buenavista WS     SP       Caduhaan WS     SP     DW       Sant Isidro     Capifiahan WS     SP       Santa Fe     Municipal Total     SP       Santa Fe     Municipal Total     SP       Tabango     Mun. Government:     DW       Tacloban City (Capital)     Tacloban City     DW       Tanauan     Adia BWSA     DW       Mahulod BWSA     DW     Municipal Total       Villaba     Abijao     Sta. Elena     DW       Villaba     Abijao     Sta. Suba F     SP       Dawesan, Silad & Suba F     SP     Cabungaan, Silad & Suba F			Sta. Fe WS	SP	1	78.5	15	1	3.8	300	
Municipal Total     SP       Mayorga     Municipal Total     SP       Mayorga     BWSA     DW       Palompon     Buenavista     DW       Palompon     Buenavista     SP       Caduhaan     WS     SP       San Isidro     Capitahan     WS       Santa Fe     San Juan     DW       Santa Fe     Mun. Government     DW       Tabango     Mun. Government     DW       Tanauan     Ada BWSA     DW       Tanauan     Sta. Elena     DW       Villaba     Sta. Elena     DW       Villaba     Abijao     Sta. Slena       Abijao     Sta. Slena     SP			Sto. Niño BWSA	SP	-	78.5	50	•••	3.8	200	
a Mayorga BWSA DW DW on Mayorga BWSA DW SP DW Buenavista WS SP SP Caduhaan WS Caduhaan WS DW SP DW no Capifiahan WS DW DW DW no City (Capital) Tacloban City DW DW no City (Capital) Tacloban City DW DW no City (Capital) Tacloban City DW			Municipal Total	SP	5	237.8	4	6	40.4	2.720	6
Palompon     Buenavista WS     SP       Palompon     Caduhaan WS     SP       Caduhaan WS     SP     SP       Santa Fe     Municipal Total     SP       Santa Fe     San Juan WS     DW       Santa Fe     San Juan WS     DW       Tabango     Mun. Government     DW       Tacloban City (Capital)     Tacloban City     DW       Tanauan     Ada BWSA     DW       Tanauan     Sta. Elena     DW       Villaba     Sta. Elena     DW       Villaba     Abijao     Sta. Suba H       Damogaan, Silad & Suba H     SP		Mavorea	Mayorga BWSA	MQ			20	1		10	
Caduhaan WS     SP       Cruz WS     SP       San Isidro     Cruz WS       San Isidro     Capiñahan WS       Santa Fe     Mun. Government:       Tabango     Mun. Government:       Tacloban City (Capital)     Tacloban City       Tanauan     Ada BWSA       Tanauan     Sta. Elena       Municipal Total     SP       Tanauan     Ada BWSA       Nahulod BWSA     DW       Villaba     Sta. Elena       Municipal Total     DW       Villaba     Abijao       Sta. Elena     DW       Villaba     Sta. Slad & Suba H		Palomnon	Buenavista WS	SP	1		200	•	3.4	150	
Cruz WS     SP       Municipal Total     SP       Municipal Total     SP       Num. Copital WS     DW       Mun. Government:     DW       Municipal Total     DW       Sta. Elena     DW       Municipal Total     DW       Abijao     SP       Cabungaan: Silad & Suba E     SP       Cabungaan: Silad & Suba E     SP			Caduhaan WS	SP	1		120	3	10.1	200	
Municipal Total     SP       fro     Capifahan WS     DW       e     San Juan WS     DW       o     Mun. Government     DW       n     Ada BWSA     DW       Ada BWSA     DW       Mahulod BWSA     DW       Sta. Elena     DW       Abijao     Sta. Slad & Suba I       Bangcal BWSA     DW       Cabbungaan, Silad & Suba I     SP			Cruz WS	SP	1		50	<b>*</b> *	3.0	280	
Ito     Capifiahan WS     DW       e     San Juan WS     DW       o     Mun. Government:     DW       o     Mun. Government:     DW       o     Mun. Government:     DW       n     Ada BWSA     DW       Ada BWSA     DW       Mahulod BWSA     DW       Sta. Elena     DW       Municipal Total     DW       Bangcal BWSA     SP       Cabbungaan. Silad & Suba E     SP			Municipal Total	SP	Э		370	. 5	16.5	630	33
e San Juan WS San Juan WS Num City (Capital) Tacloban City DW DW nn City (Capital) Tacloban City DW DW Cambalisara BWSA DW DW Sta. Elena DW DW Sta. Elena DW Sta. Elena DW Sta. Elena DW Sta. Stangal BWSA Suba E SP Cabungaan Silad & Suba E SP Cabungaan Sil		San Isidro	Capiňahan WS	DW	1	100.0	100	2	60.0	250	
o     Mun. Government:     DW       in City (Capital)     Tacloban City     DW       in City (Capital)     Tacloban City     DW       Ada BWSA     DW     DW       Mahulod BWSA     DW     DW       Sta. Elena     DW     DW       Abijao     Stad & Suba I     SP       Cabungaan, Silad & Suba I     SP     SP		Santa Fe	San Juan WS	SP	-	100.0	8	1	18.0	150	
m City (Capital) Tacloban City Ada BWSA DW DW Canbalisara BWSA SP DW Mahulod BWSA DW Sta. Elena DW BWSP DW Sta. Elena DW Sta. Elena DW Sta. Elena Municipal Total DW/SP Bangcal BWSA Suba E SP Cabungaan Silad & Suba E SP Cabung		Tabango	Mun. Government:	DW							53
n Ada BWSA DW Caubalisara BWSA SP Caubalisara BWSA SP Mahulod BWSA DW Sta. Elena DW DW Sta. Elena DW Sta. Elena DW Sta. Elena Stan Elena SP SP Samgcal BWSA Suba E SP Cabungaan Silad & Suba E SP Cabungaan Silad & Suba E SP Cabungaan Silad & Suba E SP SUVSA SP SP SUVSA SP		Tacloban City (Capital)	Tacloban City								
Canbalisara BWSA SP Mahulod BWSA DW Sta. Elena DW Municipal Total DW/SP Abijao SP Bangcal BWSA Suba F SP Cabungaan, Silad & Suba F SP		Tanauan	Ada BWSA	- DW	1	8.0	400			20	
Mahulod BWSA     DW       Sta. Elena     DW       Sta. Elena     DW/SP       Municipal Total     DW/SP       Abijao     SP       Bangcal BWSA     Sba E       Cabungaan, Silad & Suba E     SP		-	Canbalisara BWSA	SP	1		1,100				54
Sta. Elena     DW       Municipal Total     DW/SP       Abijao     SP       Bangcal BWSA     SP       Cabungaan Silad & Suba E     SP			Mahulod BWSA	DW							-
Municipal Total DW/SP Abijao SP Bangcal BWSA Suba E SP Cabungaan Silad & Suba E SP			Sta. Elena	DW			65				
Abijao Bangcal BWSA Cabungaan, Silad & Suba F			Municipal Total	DW/SP	1/1	8.0	1,565			20	
Bangcal BWSA Cabungaan, Silad & Suba F		Villaba	Abijao	Υ. Β		186.6	900			300	
& Suba F			Bangcal BWSA	SP		207.4	-	-1	27.0	300	
			8	SP.		186.6	4.500	3	90.06	1,800	9
			Cagnocot BWSA	SP	· · 1 · ·	248.8	1,800	1	45.01	006	

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

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						Exis	<b>Existing Faculties</b>	es	
		:.	Water Source	Lcc		Resc	Reservoir		<u> </u>
Name of Municipality/City	Name of Operating Body	Type	Number	Discharge (m³/day)	Length of Transmission Line (meter)	Number	Volume (m <sup>3</sup> )	Length of Distribution Line (meter)	Number of Public Faucets
Willsha	Camporog WS	SP	-	207.4	800		15.0	300	5
	Cantingeon BWSA	dS		81.0	006		20.0	300	2
-	Casil-on BWSA	dS		155.5	1,200			500	5
	Fatima BWSA	dS		259.2	006			300	5
	Hibulanean RWSA	dS		155.5	006			300	3
- -	Iordan BWSA	SP		248.8	1,300			800	6
:	Sulpa BWSA	SP	-	97.2	1.300	1	6.0	100	6
-	Tabunok BWSA	SP	,	155.5	500				Ċ1
	Municipal Total	SP	12	2.189.6	15,800	8	203.0	5.900	48
	Provincial Total		180	14,440.5	209,148	281	2,829.9	123,084	3.061
Notes 1 Type of Water Sol	Vell. De	Due Well	. Surf - Sur	face Water (Riv	W - Due Well, Surf - Surface Water (River), SP - Spring, and IG - Infilmation Gallery	id IG - Infilm	ration Gallery		

Ś Note: 1. Type of Water Source: DW - Deep Well, DgW - Dug Well, Surf - Surface water (Kiver), Sr - Number of public faucet for the Municipality of Burauen was taken from UNICEF Report.

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		1	Number of		Ę	Number of	Į	Don	Number of Population Served	bed
Name of	Name of	Bar	Barangay Served	ved	Hon	Households Served	Vea	r op	TON PER	5
Municipality/City	Operating Body	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
	Almonitan WS		-			20	20		66	66
Source	Post Stranger		·			30	30		1671	149
	Bagacay wo		• •-	•		65	65		323	323
	Damisasayao wo		-1			4	40		199	199
	Dayadas w.S.		-	,		50	50		249	249
	Dudya W.S.					40	40		1991	199
:	Burnhud-an WS			-	1	10	10		50	50
						30	30		671	149
	SAN STRUCT					50	50		249	249
	T avera TVC		1	, p=-1		30	30		149	149
	T thered XXC			-		30	30		149	149
	Moanminau W/S	-		- -		70	70		348	348
÷	Matagenicay W.C.		•			15	15		75	75
;	Nanabud WYS			-		30	30		149	149
	Old Tolemia W/S		•			4	40	1	1661	199
	Dencemen 11/2	: :.	( <b></b>			30	30		149	149
-	Dilo- WS		•			20	20		66	66
	Dinamanan WY		(	: <b></b>		50	50		249	249
	San Francisco WS					40	40		199	199
	San Rome WS					40	40		199	661
·	Tadae W/S		1			10	10		50	50
	Tinocolan WC			-		20	20		66	66
	Thw-a WS		-			50	50	-	249	249
	Municinal Total	:	23	23		810	810		4.028	4,028
Alhuera	Doña Maria					60	60		293	293
	I anvie Ralnon BWS	A		-		20	20		98	98

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		le 4.1.2 D	etails on l	Table 4.1.2 Details on Existing Level II Systems (Cont'd.)Sheet 2 of 6	evel II Sys 5	tems (Con	ıt'd.)			
Name of	Name of	Rar	Number of Raranoav Served	f ved	Hou	Number of Households Served	rved	Pop	Number of Population Served	ved
Municipality/City	<b>Operating Body</b>	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
A lhuara	Маћауао		-			15	15		73	L .
	Mahavhav BWSA		-	1.		25				122
	Poblacion WS	-		1	06			445		445
	Sherwood		:   -4	1		50	50		244	244
	Sitio Soob. Pob.				45		45	222		22
	Municipal Total	1	Ś	9	135	170	3		830	. 1,49
Babatneon	Bagong Silang WS		: -	<b>,</b> – (		- 15	- 15 15			7
	Magcasuang WS	1		1	15		15	62		
	Malibago WS		- -			50			257	25
	Naga-asan WS			1		20			103	103
	Paesulhugon WS		1			40			206	20
	Rizal II WS		1			20			360	36
	San Isidro WS		-1	~		55			283	28
:	San Ricardo WS		1			30	30		154	154
	Taguite WS					25			129	2
	Victory WS					40			206	20
	Villa Magsavsay WS		~			15			77	
	Municipal Total		- 10	11	15	360	£ባ 	62	1	1.931
Barugo	Balud			r-1		15			82	<u>82</u>
	Bukid	1				20			109	10
	Duka			1		15	15		82	S
	San Roque					10			54	Ś
	Municipal Total		4	4		99			327	327
Bato	Dolho BWSA			,		15	15		11	2
	Himamaa BWSA			1		30		-	153	153
	Iniguihan BWSA	2		7	45		45	219		19

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<u>][ऴ</u>				Number of			Number of		r.⊣	Number of	
<u>) </u> @	Name of	Name of	Bar	Barangay Served	'ed	Hou	Households Served	rved	Popi	<b>Population Served</b>	ved
<u>][ऴ</u>	Municipality/City	Operating Body	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
<u>ă</u>		Mahini			1		10	10		51	51
	u.O	Plandel BWSA					15	15		77	11
		Rivilla WS			1		10	10		51	51
		Municinal Total	2	5	. 7 .	45	80	125	219	409	628
<u> </u>	Davhav	Amhacan WS			• •		15	15		73	73
<u> </u>		Ralao WS					15	15		73	73
•	·.	Banahao WS					30	30		146	146
	•	Ridinan WS					20	20		86	98
		Bitanhuan WS					500	500		2,440	2,440
		Birhon WS					15	15		73	73
- 18	· · ·	Buenavista WS					4	40		195	. 195
		Bunda WS					50			244	244
		Butioan WS	:	· · ·			25	25		122	122
		Caridad WS			-		110	110		537	537
	•	kinhas V	NS -				120	120		586	586
						20		20	66		8
		Guhane WS					45	45		220	220
		Himloan WS					15	. 15		. 73	. 7
		Hilannitan WS					25			122	122
		Igane WS					20	. 20		86	8
		Kabalasan WS				1	25	25		122	122
		Kahanian WS					15	15		73	73
		Kabungaan WS			1		80	80		390	390
		Karumav WS			1		15	15		5	13
	-	Mal	cinhas WS		~		50	50		244	244
				1			15	15		73	2

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Name of	Name of	Bar	Number of Barangay Served	ved	Hou	Number of Households Served	ved	Pop	Number of Population Served	ved
Municipality/City	<b>Operating Body</b>	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Bowhaw	Macanhan WS			1		20	20		86	86
	Mahavahav WS			1		30	30		146	146
	Mailhi WS					30	30		146	146
	Mainum WS					60	60		293	293
	Mangap WS		1	1		40	40		195	195
	Marcos WS		1			50	50		244	244
	Mashue WS		<b></b>	-		50	50		244	244
	Matam-is WS			1		20.	20		98	98
	Mavbog WS		-	1		130	130		634	634
	Mavnatag WS		1			40	40		195	195
	Monte Verde WS		1			20	20		86	86
	Pangasugan WS		1			2.580	2.580		12,590	12,590
	Pansagan WS		1			25	25		122	122
	Patae WS					10	10		49	4
	Plandel WS					1,500	1,500		7.320	7,320
	Pomponan WS			1	100		100	497		497
	Punta WS		1			25	25		122	122
•	Sabang WS					80	SO		390	390
	San Agustin WS					20	20		98	86
•	San Juan WS			1		20	20		98	98
	d W	S				25	25		122	122
	Zacarito WS		1	1		20	20		98	98
	Municipal Total	2	42	44	120	6,040	6.160	596	29.475	30,071
Burauen	Burauen WS	E C	11	14	62	93	172	395	465	860
Calubian	Carovocan WS			1		25	25		121	12)
	Casiogan WS		1	-		20	20		26	97

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			Number of			Number of	•		Number of	
Name of	Name of	Bar	<b>Barangay Scrved</b>	ved	Hou	Households Served	rved	Pop	<b>Population Served</b>	ed
Municipality/City	Operating Body	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Colubian	Herrora WS					20	20		26	26
	Tubay WS			1		40	40		194	194
· · · ·	Kawayanan WS					10	10		49	49
· · · · · · · · · · · · · · · · · · ·	Timite WS					20	20		97	26
:	Doulo WC					15			73	73
	TT_ANYS					75			364	364
:	Municinal Total		00	8	:	225	225		1.092	1,092
Coni anno	Bielio					20	20		100	100
Cangara	T ibo & San Isidro WS		- ~	61		30	30		150	150
			ι m			50	50		250	250
		BWSA	5	7		25	25		125	125
<b>L</b> agami	יוי		1	e E		25	25		125	125
	Municinal Total			S		50	50		250	250
Ttil an war	Cantandog L.RWSA			-		45	45		225	225
THIULIBOS	Himo-aw RWSA		-		25		25	131		131
	Maranav RWSA					45	45		225	225
- -	Naval RWSA			-		420	420		2,104	2,104
	Municinal Total	-	m	4	25	510	535	131	2,554	2,685
	Anolon BWSA					15	15		70	70
Supplicit	Bonton WS		2	64		90	06		419	419
	Camidlocan RWSA					10	10		47	4
	Himachigo BWSA			-		10	10		47	47
	San Vicente BWSA					50	50		233	233
	Tachihi RWSA		·	Ļ		45	45		209	209
			r	r		000	220		1 025	1.025

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Name of			Number of			Number of		-	Number of	
	Name of	Bar	Barangay Served	/ed	Hou	Households Served	ved	Pop	<b>Population Served</b>	ved
Municipality/City	Operating Body	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
	Cobulican WS			1		50	50		251	251
Inopacan	Capulisan 11.5			-		40	40		201	201
	Can-ancav			1		25	25		126	126
-	Cantangar.			4		20	20		100	100
	De los Santos	Ì		1		15	15		75	75
·	Guadalune		1			50	50		251	251
	Hinahav		1			25	25		126	126
	Tinhacan					50	50		251	251
	Malio					50	50	:	251	251
	Marao W.C					75	52		377	377
	Tahud WS					50	50		251	251
	Municinal Total		• []	11		450	4		2.260	2.260
	Pine-Zahala					20			98	98
Jaro	Burshod WS	1				25	25		123	123
	Dara WS					60			295	562
.: :.	Hibinauton WS		•			25			123	123
	Macanin WS					10	- 10		49	49
	Piraon WS	4		4	20		20	100		100
	Pubae WS			-		25	25		123	123
:	San Amichin WS					25	25		123	123
	Sart real WYS		- - -			15			74	74
	Tinamhacan WS					30	30		147	147
	Tomino WS			<b>•</b> -•		20	. 20		86	98
	Villa Concuelo W/S					15	15		74	72
· · · · · · · · · · · · · · · · · · ·	Municipal Total	T		15	20	270	290	001.	1.327	1.427

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Table 4.1.2 Details on Existin Sheet 2
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						5 8			To an I am	~~~
,			Number of		}	Number of			Number of	Por in
Name of	Name of	Bai	<b>Barangay Served</b>	ved	Hou	Housebolds Served	Ved	ropu	ropulation Served	hen
Municipality/City	Operating Body	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Torrier (Burcho)	A Ronifacio BWSA		1			25	25		128	128
* 1. ( * 46. ··· )	Binulho BWSA	<u>د</u> .		4	100	50	150	516	256	772
	Carave					50	50		256	256
:	Comatin BWSA			- - - -		55	55		281	281
	Guindanunan BWSA		1	:   <b> </b> - 1		20	20	:	102	102
	Malithogav		1	-		35	35		179	179
	Mananio					50	50	:	256	256
	Manlilisid RWSA	:	- 1	,		75	75		383	383
	Odione BWSA					60	60		307	307
	Pinocawan BWSA					20	20		102	102
	San Sotero BWSA		1	-		70	70		358	358
· · · · · · · · · · · · · · · · · · ·	Talisavan		-			25	25		128	128
	TIhav BWSA	•		94		45	45		230	230
	Zone 1				25		25	129		129
	Municipal Total	4	13	17	125	580	705	645	2,966	3.611
Капапоа	Aguting			1		20	20		102	102
- O	Hiluctogan		- 1	1		40	40		204	204
	Libertad			-		15	15		17	77
	Tonov		L.	1		20	20		102	102
	Masaravao		1	,4		25	25		128	128
	Rizal					80	80		408	408
	San Isidro.					20	20		102	102
	Municipal Total		2	6		220	220		1,123	1,123
a Paz	Mun. WS	4	5	9	297	30	327	1,524	149	1.673
evte Pote	Bachao RWSA		- <b>-</b>			30	30		158	158
						00	201		105	105

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		F				Number of			Number of	
Name of	Name of	Bar	Number of Barangay Served	/ed	Hou	Households Served	ved	Pop	<b>Population Served</b>	ved
Municipality/City	<b>Operating Body</b>	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
l avte	Racind WWS			-		30	30		158	158.
	Culasi WWS		1	-		40	- 40		211	213
-	Kawavan WWS					40	40	:	211	211
	Libas WWS					15			79	- 79
	Maanda WWS					20	20		105	105
	Palarao RWA					90	90		474	474
	Palid I					30	30		158	158
	Parasan WWS			-		15	15		79	79
	Saloo WWS					10	10		53	53
	Tanol RWSA					10	10		53	53
:	Tiohawan WWS	:		-		15	15		52	79
	Tinocdogan WWS				:	20	20		105	105
	Toctoc WWS			-1		30	30		158	158
	Municinal Total		.15	15		415	415		2,186	2.186
Mac Arthur	Casuntinoan & Tina	Wan	2	7		25	25		133	133
	Danao			1		10	10		53	53
	San Antonio & Sta-	Isabel	5	7		25	25		133	133
•	Municipal Total		S	5		60	60		319	319
Mahaplag	Himamara WS			Ţ		11	11		57	57
	San Isidro WS			1		9	9		31	31
•	Municipal Total		7	2		17	17		88	88
Matacoh	Balaotas WS		 			40	40		197	197
	Bonov WS	1		1	75		75	375		375
-	Bulak WS			1		10	10		49	49
	Cambadbad WS			-	-	15	15	-	74	74
	Candelaria		-			40	40		197	197

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			Number of			Number of			Number of	
Name of	Name of	Bai	<b>Barangay Served</b>	ved	Hou	Households Served	ved	Pop	<b>Population Served</b>	ved
Municipality/City	Operating Body	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Matac.ob	Cansoso WS			<b>-</b> -1		20	20		98	98
	Imelda WS			-1		25	25		123	123
	Malazarte WS			ļ		25	25		123	123
	Mansalip WS				15		15	75		75
	Masaba WS					20	20		98	98
	Naulayan WS					20	20		98	98
· · · · · · · · · · · · · · · · · · ·	San Dionesio WS					20	20		98	9S
	San Marcelino WS			7		25	25		123	123
	San Vicente WS			-		100	100		492	492
	Sta Rosa WS			1		70	20		344	344
	Sto. Rosario WS					50	50		246	246
•	Municipal Total	2	4	16	66	480	570	450	2.360	2,810
Matalom	Cahaemaan BWSA		:		75		75	357		357
	Cangganay BWSA		-	1		20	20		101	101
	Monte Alerre			-1		50	50		252	252
	Sta Fe WS					15	15		75	75
	Sto. Niňo BWSA				25		25	119		119
· .	Municipal Total	7	e	5	100	85	185	476	428	904
Mavorga	Mayorga BWSA		5	: ന	15	30	45	72		218
Palomoon	Buenavista WS			•		9	6		28	28
	Caduhaan WS	:			;	15	15		69	69
	Cruz WS		2	- 		12	12		56	56
	Municipal Total		4	4		33	33		153	153
San Isidro	Capiñahan WS	6		<u>د</u>	40	: 15	55	178	71	249
Santa Fe	San Juan WS		-	-1		30	30		154	154
Tabango	Mun. Government		m			275	275		1.375	1.375

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			Number of			Number of			Number of	
Name of	Name of	Bar	Barangay Served	ved	Hou	<b>Households Served</b>	ved	Pop	<b>Population Served</b>	'ed
Municipality/City	Operating Body	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Taclohan City (Camital Tacloban City	Tacloban City		<b>e</b> (			275	275		1.375	1.375
Tanauan	Ada BWSA			1		40	40		161	191
	Canbalisara BWSA		1	1		270	270		1.291	1,291
	Mahulod BWSA		-	1		70	70		335	335
	Sta, Elena			1		15			72	22
	Municipal Total		4	4	-	395	395		1,889	1.889
Villaba	Abiiao			1		395	395		1.916	1.916
-	Banecal BWSA			1		20	20		97	97
	Cabuneaan. Silad &	Suba BWS	Ģ	3		20	20		97	67
	Cagnocot BWSA		1	1	-	30	30		146	146
:	Camporog WS		1	1		35	35		170	170
	Canquiason BWSA		-1			10	10		49	49
	Casili-on BWSA			1		10	01		49	6 <b>1</b>
	Fatima BWSA			-	22		25	125		125
	Hibulangan BWSA		1			25	25		121	121
	Jordan BWSA					15	15		73	13
	Sulpa BWSA			-		30	30		146	146
	Tabunok BWSA					10	10		49	67
	Municipal Total		13	14	25	600	625	125	2.913	3.038
Provinci	Provincial Total	30	238	268	1,131	12.928	14,059	5.657	63.839	69,496

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Table 4.1.2 Details on Existing Level II Systems	Sheet 2 of 0
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						Souries Conditions During Dry Season	og Dry Saas	5		
Name of	Name of	Sunnly	Dirtv	Taste or	LAICE COT	nu suonu Supply In Indenoi	Supply Interruption (number/month)		Supply Water Press. (% of total)	ly Water P (% of total)
Municipality/City	0	(Hrs/day)	Water	Smell <sup>2</sup>	Power	Pump Broakdown	Pipe Burst	Others	Adequate	Inadequate
	A110- WC				2 min	DI CANCAL				
Abuyog	Alanggitat wo Paracay M/S									
	Balinsasavao WS									
	Bavabas WS									
	Buava WS									
	Bulak WS									
	Burnbud-an WS									
· · ·	Dinole WS									
	Vibily WS									
	Y means									
	I ibertad WS			-						
	Magamicav WS									
-	Mataonao WS									
	New Talione WS									
	Old Talione WS									
	Parasanon WS									
	Pilar WS									
	Pinamanagan WS							ļ		
	San Francisco WS									
	San Roque WS									
	Tadoc WS									
	Tinocolan WS									
	Tuv-a WS									
Albuera	Doña Mana	10								
	Lawis. Balueo BWSA	4								ľ
	Mahavag	24								
	Mahavhav BWSA	24								

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